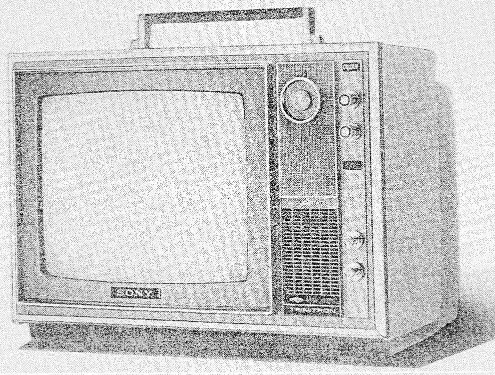
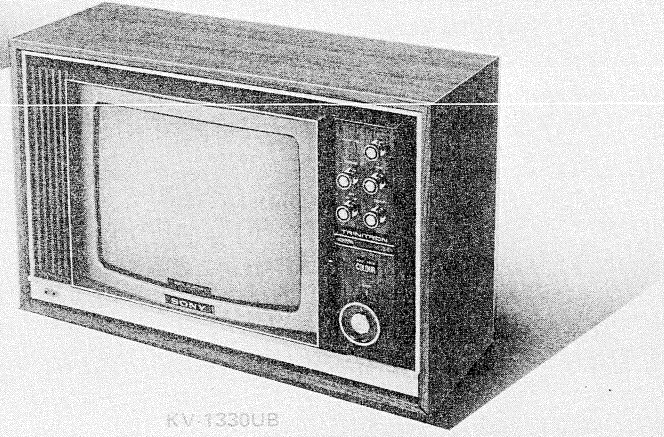
KV-1310UB
KV-1330UB

UK Model

Chassis No. SCC-55B-A . . . KV-1310UB
Chassis No. SCC-55A-A . . . KV-1330UB



KV-1310UB



KV-1330UB

TRINITRON® COLOUR TV

SPECIFICATIONS

TV-signal standards:	British colour TV standards (CCIR system I)
Picture tube:	90° deflection TRINITRON system
Semiconductors:	69 transistors, 52 diodes and 2 IC's
Aerial:	UHF: 75 Ω aerial socket type
Channel coverage:	UHF: ch. 21 ~ 68
Intermediate frequencies:	Picture i-f carrier: 39.5 MHz Colour subcarrier: 35.07 MHz Sound i-f carrier: 33.5 MHz
Sound system:	6.0 MHz intercarrier Output power: 1.2 W (at 10 % harmonic distortion) Speaker: 8 x 12 (cm) elliptical, 8 Ω $3\frac{1}{8}$ x $4\frac{3}{4}$ (inches) . . . KV-1310UB 8 x 16 (cm) elliptical, 8 Ω $3\frac{1}{8}$ x $6\frac{5}{16}$ (inches) . . . KV-1330UB
Video system:	RGB cathode drive
Automatic controls:	AFT (automatic fine tuning) AGC (automatic gain control) AFC (automatic frequency control) ANC (automatic noise canceller) ABL (automatic brightness limiter) ACC (automatic colour control) ACK (automatic colour killer) ADC (automatic degaussing) AZC (automatic zooming control)
Power requirements:	240 V ac, 50 Hz
Power consumption:	78 W
Dimensions:	437 (w) x 335 (h) x 394 (d) mm . . . KV-1310UB $17\frac{3}{16}$ (w) x $13\frac{3}{16}$ (h) x $15\frac{1}{2}$ (d) inches 506 (w) x 339 (h) x 390 (d) mm . . . KV-1330UB $19\frac{15}{16}$ (w) x $13\frac{5}{16}$ (h) x $15\frac{11}{32}$ (d) inches
Net weight:	13.9 kg (30 lb, 10 oz) . . . KV-1310UB 14.6 kg (32 lb, 3 oz) . . . KV-1330UB
Accessories:	Instruction manual Earpiece (ME-20B) . . . KV-1330UB

SONY®

SERVICE MANUAL

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WARNING!!

THIS CHASSIS OPERATES WITH ONE SIDE OF THE POWER LINE CONNECTED TO THE CHASSIS. TO ELIMINATE SHOCK HAZARD AND PROTECT EQUIPMENT WHEN SERVICING THE SET WITH THE COVERS REMOVED, MAKE SURE THAT THE SET IS PLUGGED INTO A SUITABLY-RATED ISOLATION TRANSFORMER.

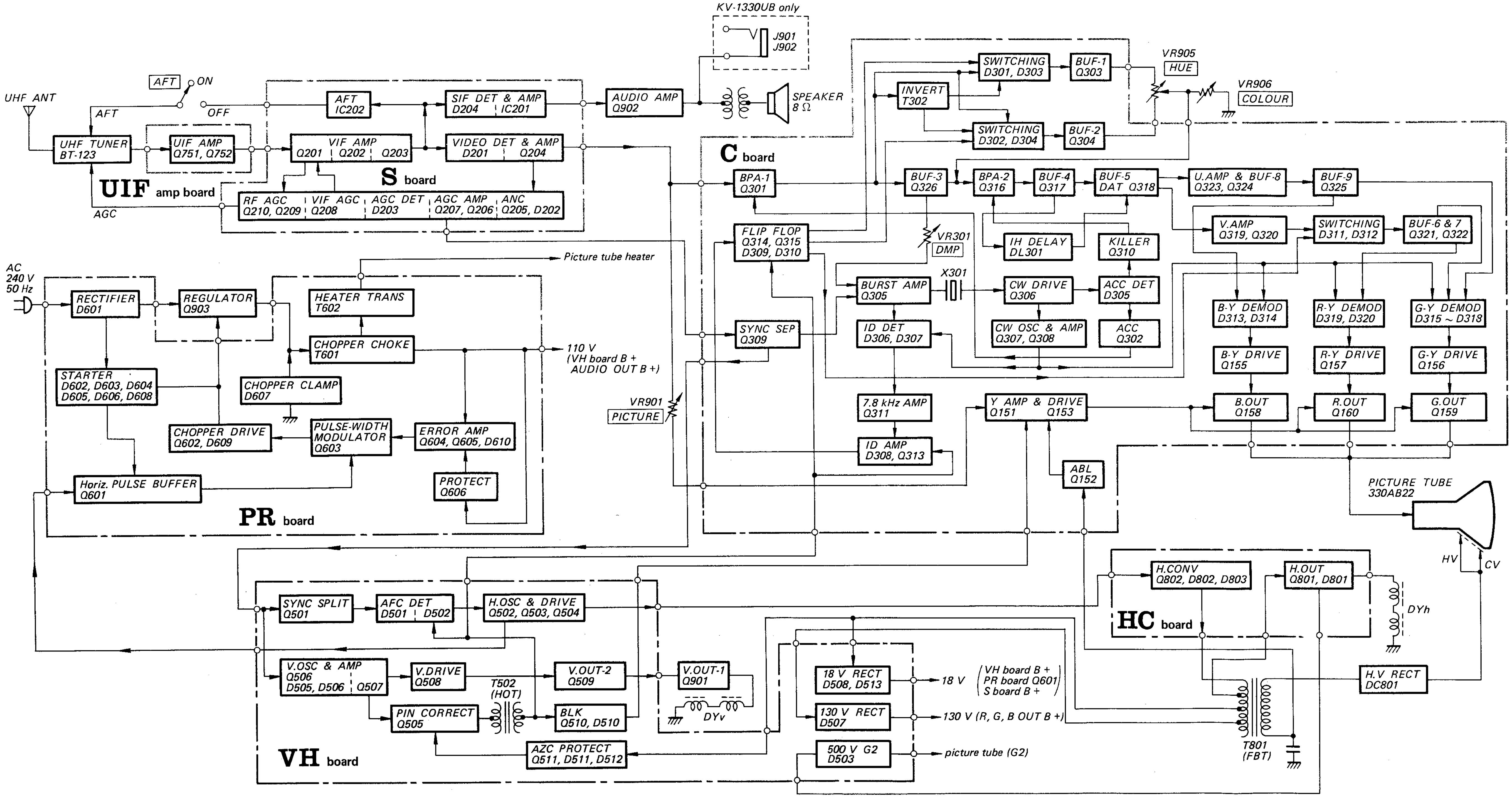
X-RAY RADIATION WARNING!!

BE SURE THAT PARTS REPLACEMENT IN THE HIGH VOLTAGE BLOCK AND ADJUSTMENTS MADE TO THE HIGH VOLTAGE CIRCUITS ARE CARRIED OUT PRECISELY IN ACCORDANCE WITH THE PROCEDURES GIVEN IN THIS MANUAL.

SECTION 1

TECHNICAL DESCRIPTION

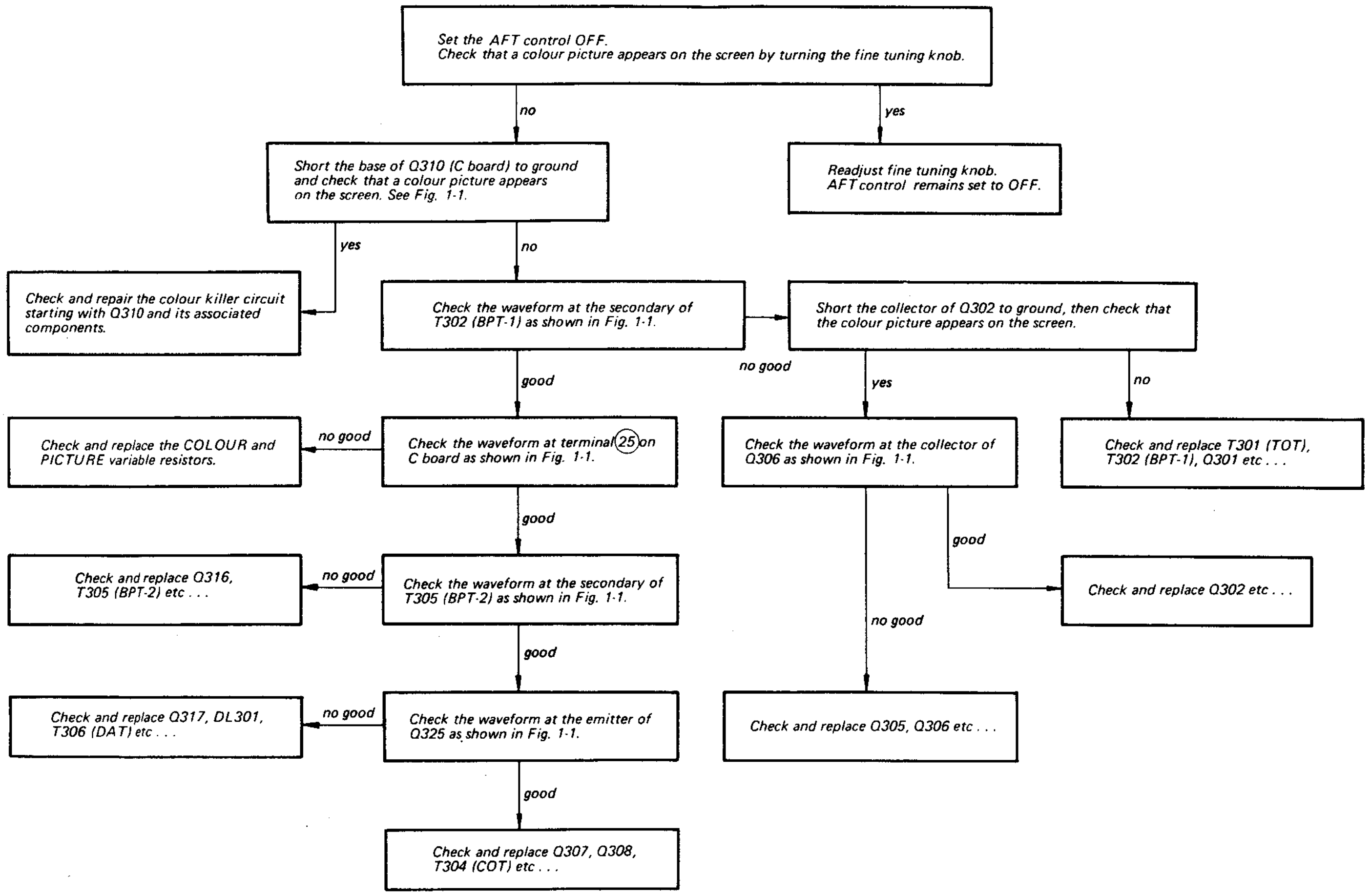
1-1. BLOCK DIAGRAM


KV-1330UB only
J901
J902
AFT
ON
OFF
UHF ANT
AFT
UHF TUNER
BT-123
UIF AMP
Q751, Q752
UIF amp board
AGC
AFT
IC202
SIF DET & AMP
D204 IC201
AUDIO AMP
Q902
SPEAKER
8 Ω
VIF AMP
Q201 Q202 Q203
VIDEO DET & AMP
D201 Q204
S board
RF AGC
Q210, Q209
VIF AGC
Q208
AGC DET
D203
AGC AMP
Q207, Q206
ANC
Q205, D202
C board
SWITCHING
D301, D303
BUF-1
Q303
INVERT
T302
SWITCHING
D302, D304
BUF-2
Q304
VR905
HUE
VR906
COLOUR
BPA-1
Q301
BUF-3
Q326
BPA-2
Q316
BUF-4
Q317
BUF-5
DAT Q318
U.AMP & BUF-8
Q323, Q324
BUF-9
Q325
FLIP FLOP
Q314, Q315
D309, D310
VR301
DMP
1H DELAY
DL301
KILLER
Q310
V.AMP
Q319, Q320
SWITCHING
D311, D312
BUF-6 & 7
Q321, Q322
BURST AMP
Q305
X301
CW DRIVE
Q306
ACC DET
D305
SYNC SEP
Q309
ID DET
D306, D307
CW OSC & AMP
Q307, Q308
ACC
Q302
B-Y DEMOD
D313, D314
R-Y DEMOD
D319, D320
G-Y DEMOD
D315 ~ D318
B-Y DRIVE
Q155
R-Y DRIVE
Q157
G-Y DRIVE
Q156
7.8 kHz AMP
Q311
Y AMP & DRIVE
Q151 Q153
B.OUT
Q158
R.OUT
Q160
G.OUT
Q159
ID AMP
D308, Q313
ABL
Q152
PICTURE TUBE
330AB22
HV
CV
AC
240 V
50 Hz
RECTIFIER
D601
REGULATOR
Q903
Picture tube heater
HEATER TRANS
T602
CHOPPER CHOKE
T601
110 V
(VH board B +
AUDIO OUT B +)
STARTER
D602, D603, D604
D605, D606, D608
CHOPPER CLAMP
D607
VR901
PICTURE
CHOPPER DRIVE
Q602, D609
PULSE-WIDTH
MODULATOR
Q603
ERROR AMP
Q604, Q605, D610
PROTECT
Q606
Horiz. PULSE BUFFER
Q601
PR board
SYNC SPLIT
Q501
AFC DET
D501 D502
H.OSC & DRIVE
Q502, Q503, Q504
H.CONV
Q802, D802, D803
H.OUT
Q801, D801
DYh
HC board
V.OSC & AMP
Q506
D505, D506 Q507
V.DRIVE
Q508
T502
(HOT)
V.OUT-2
Q509
V.OUT-1
Q901
DYv
PIN CORRECT
Q505
BLK
Q510, D510
AZC PROTECT
Q511, D511, D512
18 V RECT
D508, D513
18 V
VH board B +
PR board Q601
S board B +
130 V RECT
D507
130 V (R, G, B OUT B +)
500 V G2
D503
picture tube (G2)
H.V RECT
DC801
T801
(FBT)
VH board

1-2. TROUBLESHOOTING CHART

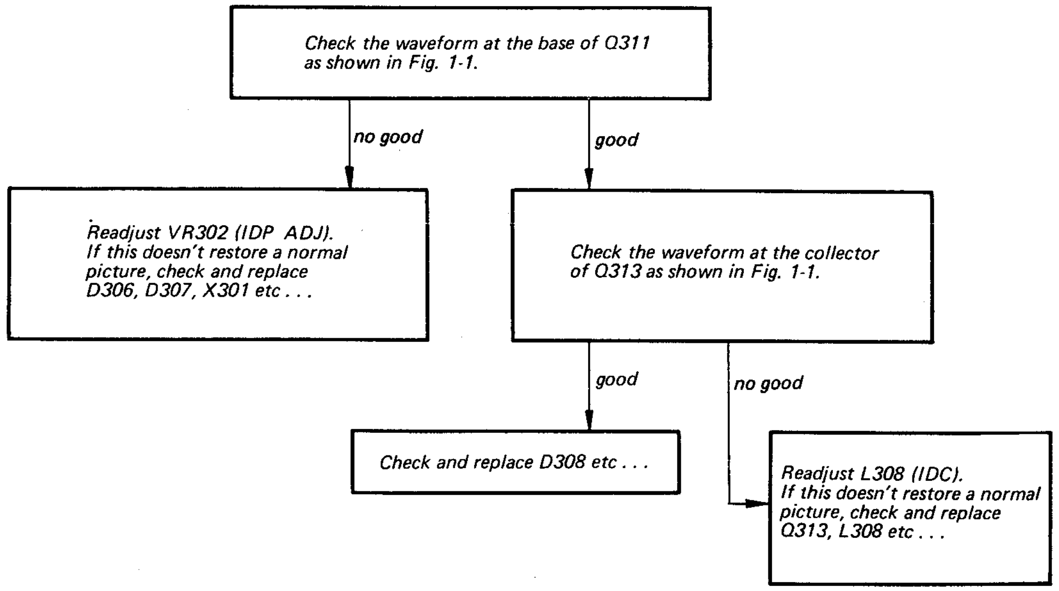
[No Colour]

Note: Before checking the colour circuit, make sure that the COLOUR control is not set to minimum.


Set the AFT control OFF.
Check that a colour picture appears on the screen by turning the fine tuning knob.
no
yes
Short the base of Q310 (C board) to ground and check that a colour picture appears on the screen. See Fig. 1-1.
Readjust fine tuning knob.
AFT control remains set to OFF.
yes
no
Check and repair the colour killer circuit starting with Q310 and its associated components.
Check the waveform at the secondary of T302 (BPT-1) as shown in Fig. 1-1.
Short the collector of Q302 to ground, then check that the colour picture appears on the screen.
no good
good
yes
no
Check and replace the COLOUR and PICTURE variable resistors.
no good
Check the waveform at terminal ㉕ on C board as shown in Fig. 1-1.
Check the waveform at the collector of Q306 as shown in Fig. 1-1.
Check and replace T301 (TOT), T302 (BPT-1), Q301 etc . . .
good
good
Check and replace Q316, T305 (BPT-2) etc . . .
no good
Check the waveform at the secondary of T305 (BPT-2) as shown in Fig. 1-1.
Check and replace Q302 etc . . .
no good
good
Check and replace Q317, DL301, T306 (DAT) etc . . .
no good
Check the waveform at the emitter of Q325 as shown in Fig. 1-1.
Check and replace Q305, Q306 etc . . .
good
Check and replace Q307, Q308, T304 (COT) etc . . .

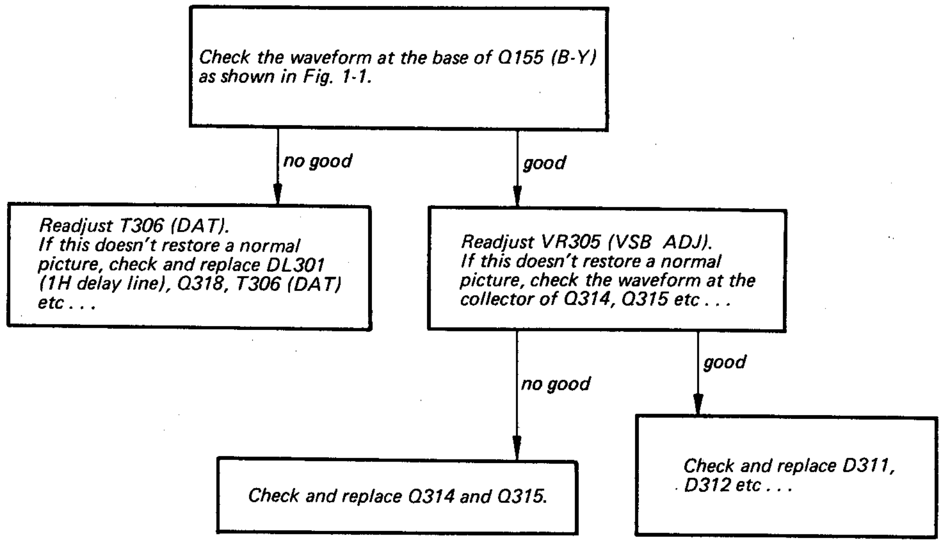
[Hue Variation]

This symptom is defined as a deviation from normal hue.


Check the waveform at the base of Q311 as shown in Fig. 1-1.
no good
good
Readjust VR302 (IDP ADJ).
If this doesn't restore a normal picture, check and replace D306, D307, X301 etc . . .
Check the waveform at the collector of Q313 as shown in Fig. 1-1.
good
no good
Check and replace D308 etc . . .
Readjust L308 (IDC).
If this doesn't restore a normal picture, check and replace Q313, L308 etc . . .

[Line Crawling or Hanover Bars]

This symptom is the effect of phase error which is observed as a line to line luminance difference.


Check the waveform at the base of Q155 (B-Y) as shown in Fig. 1-1.
no good
good
Readjust T306 (DAT).
If this doesn't restore a normal picture, check and replace DL301 (1H delay line), Q318, T306 (DAT) etc . . .
Readjust VR305 (VSB ADJ).
If this doesn't restore a normal picture, check the waveform at the collector of Q314, Q315 etc . . .
no good
good
Check and replace Q314 and Q315.
Check and replace D311, D312 etc . . .

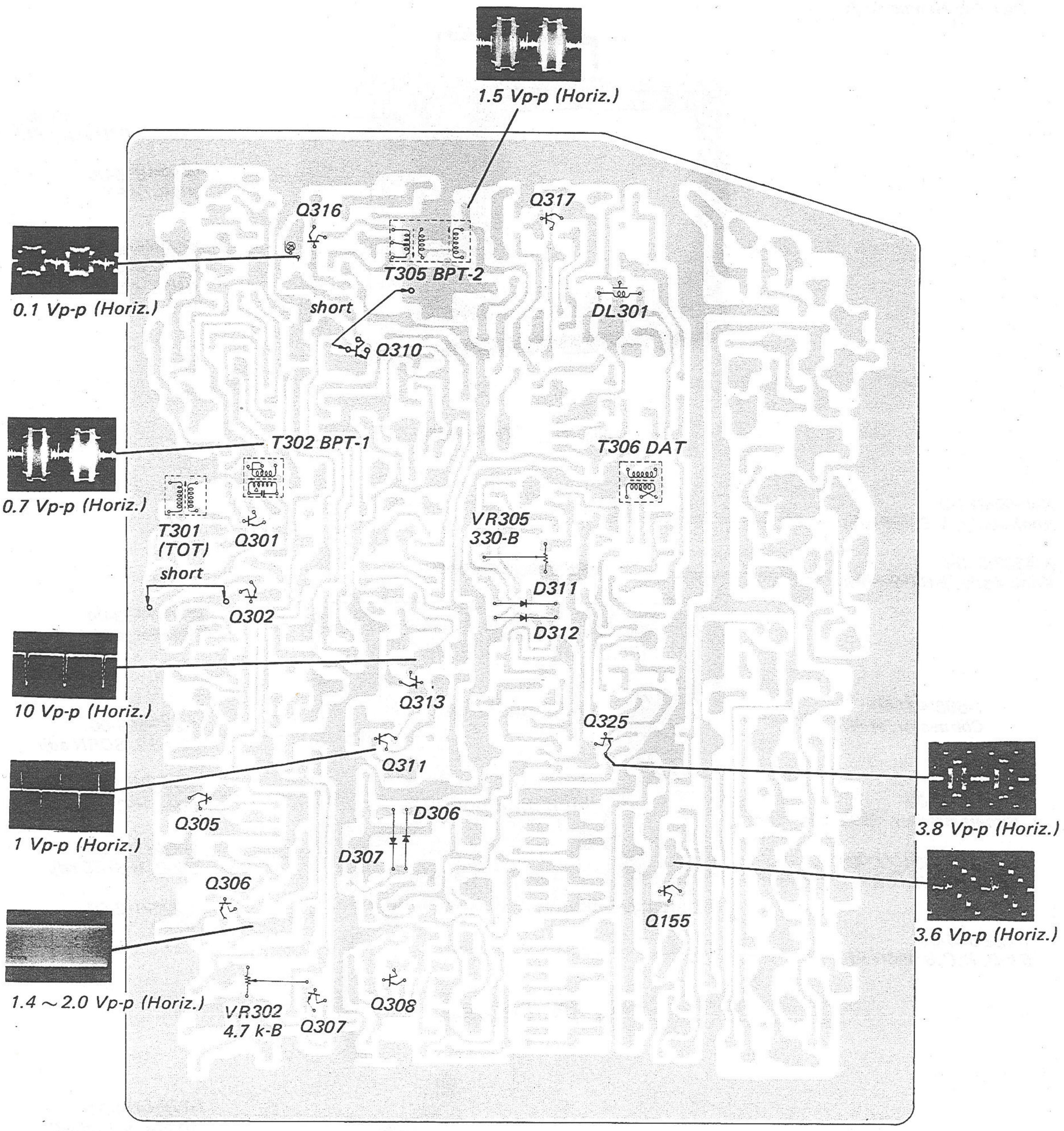

1.5 Vp-p (Horiz.)
Q316
Q317
0.1 Vp-p (Horiz.)
T305 BPT-2
short
DL301
Q310
T302 BPT-1
T306 DAT
0.7 Vp-p (Horiz.)
T301
(TOT)
Q301
VR305
330-B
short
D311
Q302
D312
10 Vp-p (Horiz.)
Q313
Q325
Q311
3.8 Vp-p (Horiz.)
1 Vp-p (Horiz.)
Q305
D306
D307
Q306
3.6 Vp-p (Horiz.)
Q155
1.4 ~ 2.0 Vp-p (Horiz.)
VR302
4.7 k-B
Q307
Q308

Fig. 1-1. Check points on C board

1-3. EXTERNAL VIEWS

(KV-1310UB)

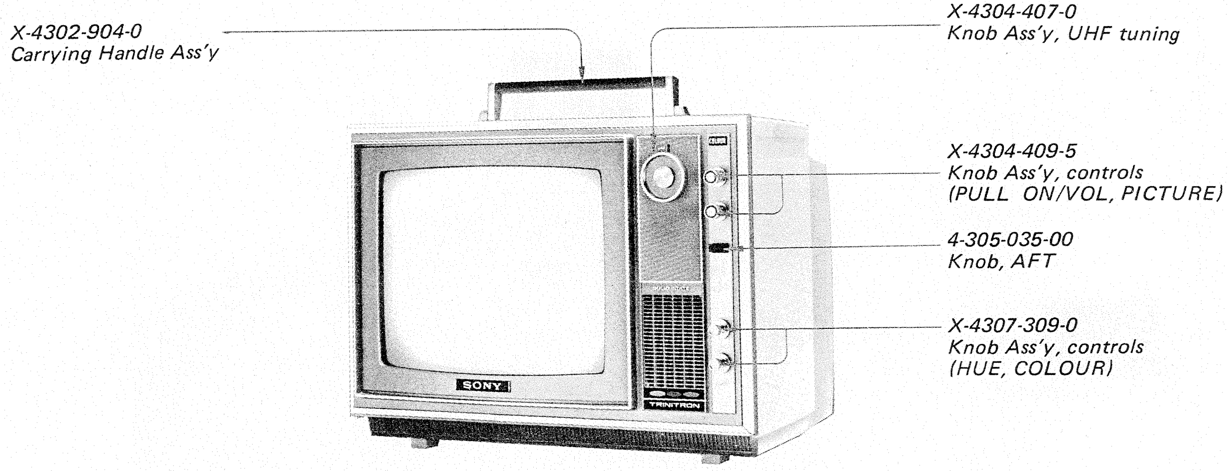

X-4302-904-0
Carrying Handle Ass'y
X-4304-407-0
Knob Ass'y, UHF tuning
X-4304-409-5
Knob Ass'y, controls
(PULL ON/VOL, PICTURE)
4-305-035-00
Knob, AFT
X-4307-309-0
Knob Ass'y, controls
(HUE, COLOUR)
SONY
TRINITRON

Fig. 1-2. Front view

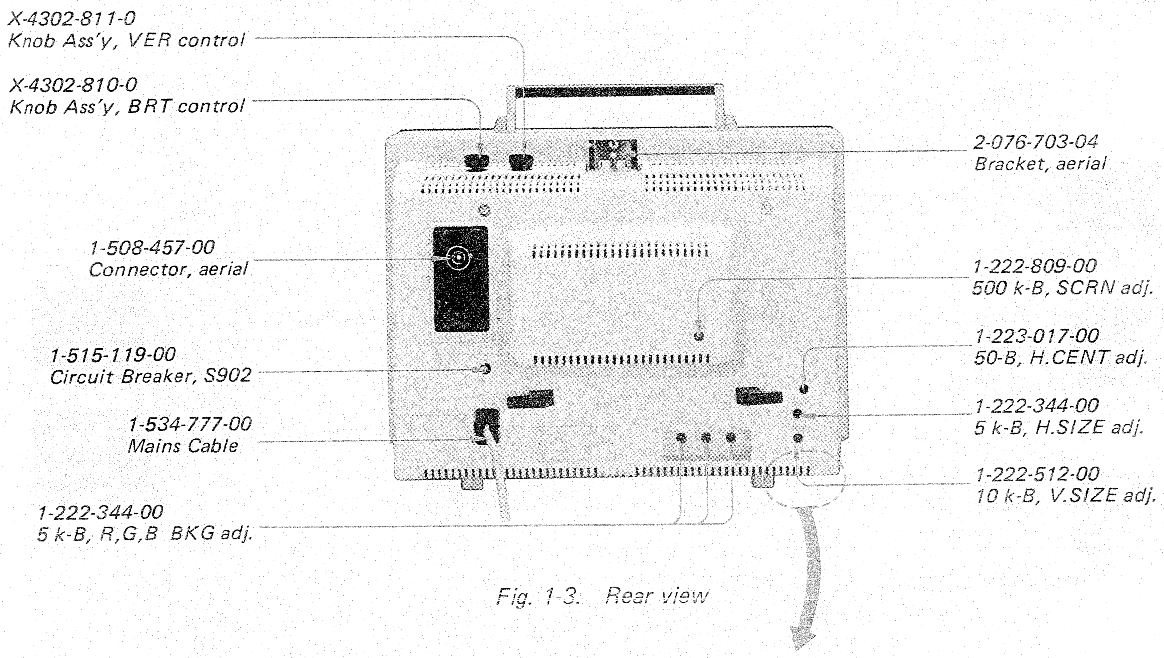

X-4302-811-0
Knob Ass'y, VER control
X-4302-810-0
Knob Ass'y, BRT control
1-508-457-00
Connector, aerial
1-515-119-00
Circuit Breaker, S902
1-534-777-00
Mains Cable
1-222-344-00
5 k-B, R,G,B BKG adj.
2-076-703-04
Bracket, aerial
1-222-809-00
500 k-B, SCRN adj.
1-223-017-00
50-B, H.CENT adj.
1-222-344-00
5 k-B, H.SIZE adj.
1-222-512-00
10 k-B, V.SIZE adj.

Fig. 1-3. Rear view

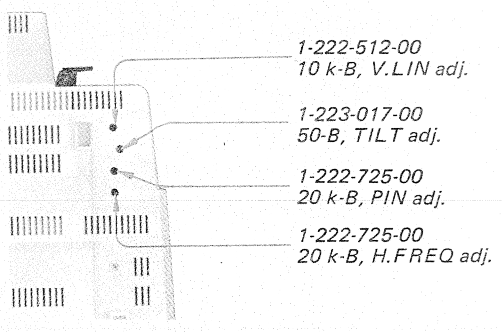

1-222-512-00
10 k-B, V.LIN adj.
1-223-017-00
50-B, TILT adj.
1-222-725-00
20 k-B, PIN adj.
1-222-725-00
20 k-B, H.FREQ adj.

Fig. 1-4. Bottom view

(KV-1330UB)

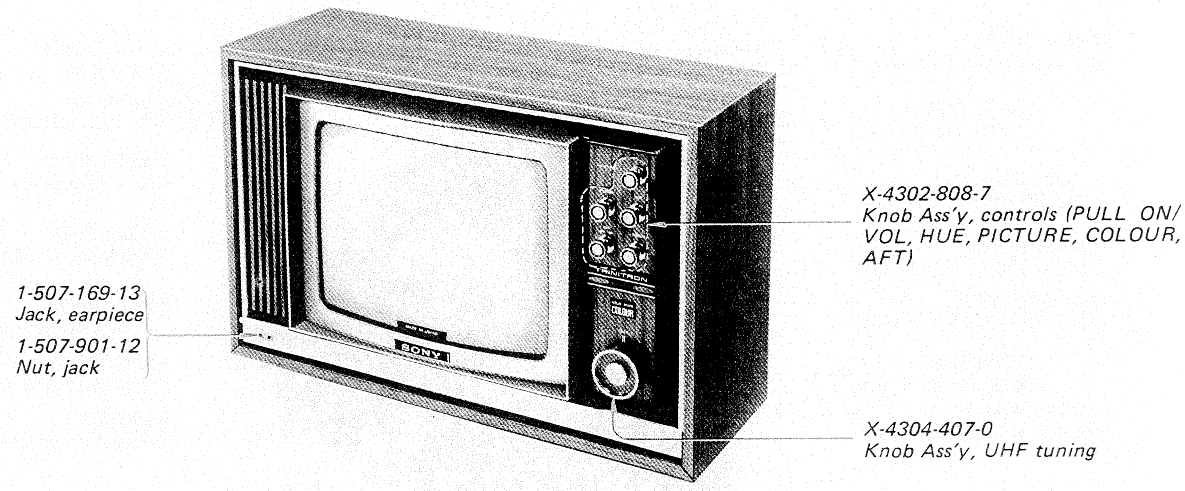

X-4302-808-7
Knob Ass'y, controls (PULL ON/ VOL, HUE, PICTURE, COLOUR, AFT)
1-507-169-13
Jack, earpiece
1-507-901-12
Nut, jack
X-4304-407-0
Knob Ass'y, UHF tuning

Fig. 1-5. Front view

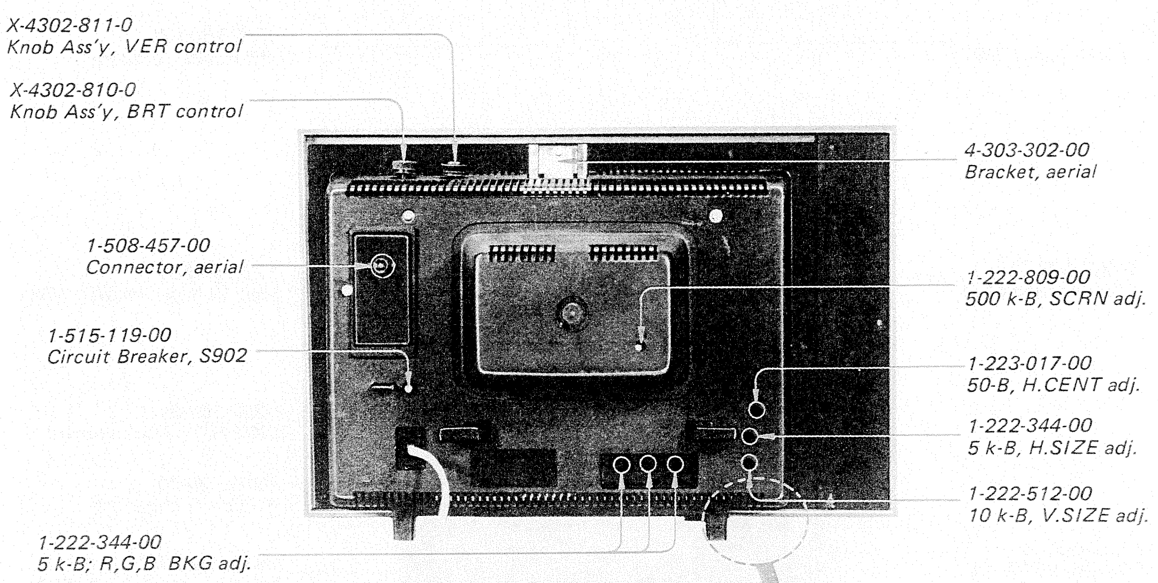

X-4302-811-0
Knob Ass'y, VER control
X-4302-810-0
Knob Ass'y, BRT control
4-303-302-00
Bracket, aerial
1-508-457-00
Connector, aerial
1-222-809-00
500 k-B, SCRN adj.
1-515-119-00
Circuit Breaker, S902
1-223-017-00
50-B, H.CENT adj.
1-222-344-00
5 k-B, H.SIZE adj.
1-222-512-00
10 k-B, V.SIZE adj.
1-222-344-00
5 k-B; R,G,B BKG adj.

Fig. 1-6. Rear view

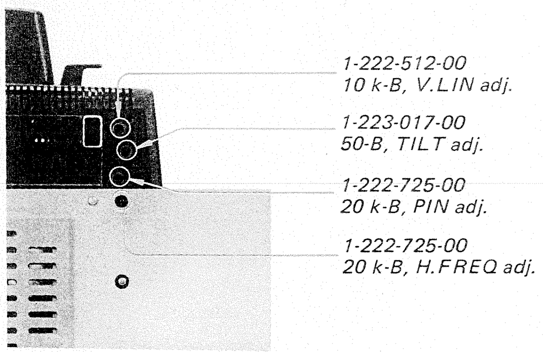

1-222-512-00
10 k-B, V.LIN adj.
1-223-017-00
50-B, TILT adj.
1-222-725-00
20 k-B, PIN adj.
1-222-725-00
20 k-B, H.FREQ adj.

Fig. 1-7. Bottom view

1-4. INTERNAL VIEWS

(KV-1310UB)

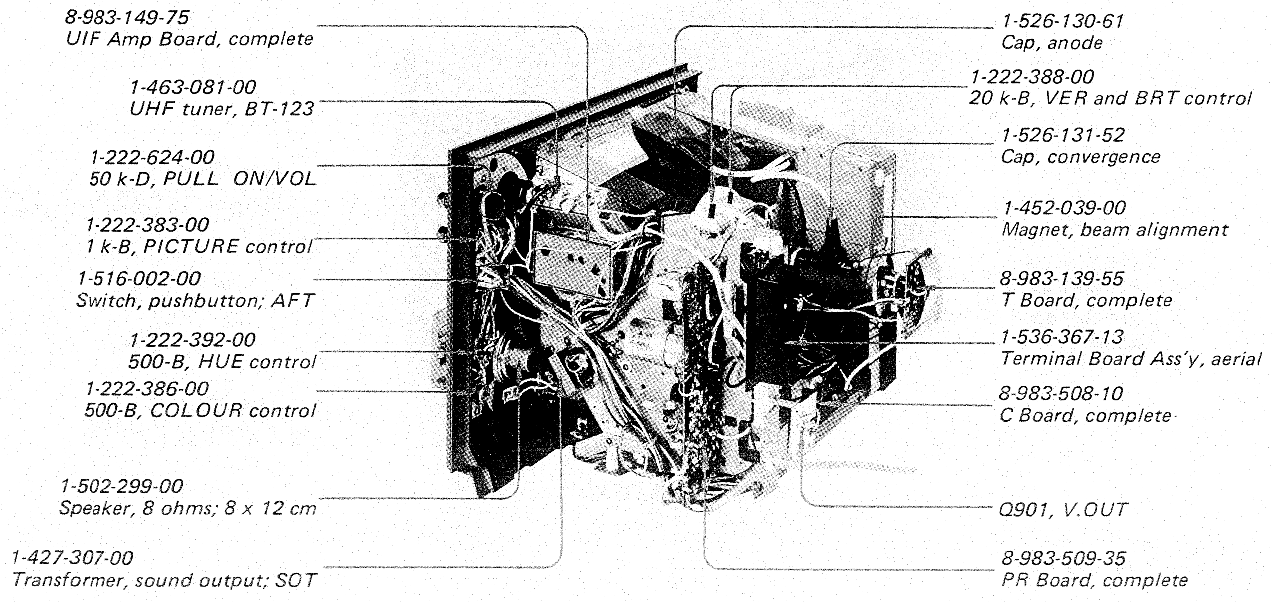

8-983-149-75
UIF Amp Board, complete
1-463-081-00
UHF tuner, BT-123
1-222-624-00
50 k-D, PULL ON/VOL
1-222-383-00
1 k-B, PICTURE control
1-516-002-00
Switch, pushbutton; AFT
1-222-392-00
500-B, HUE control
1-222-386-00
500-B, COLOUR control
1-502-299-00
Speaker, 8 ohms; 8 x 12 cm
1-427-307-00
Transformer, sound output; SOT
1-526-130-61
Cap, anode
1-222-388-00
20 k-B, VER and BRT control
1-526-131-52
Cap, convergence
1-452-039-00
Magnet, beam alignment
8-983-139-55
T Board, complete
1-536-367-13
Terminal Board Ass'y, aerial
8-983-508-10
C Board, complete
Q901, V.OUT
8-983-509-35
PR Board, complete

Fig. 1-8. Major parts location

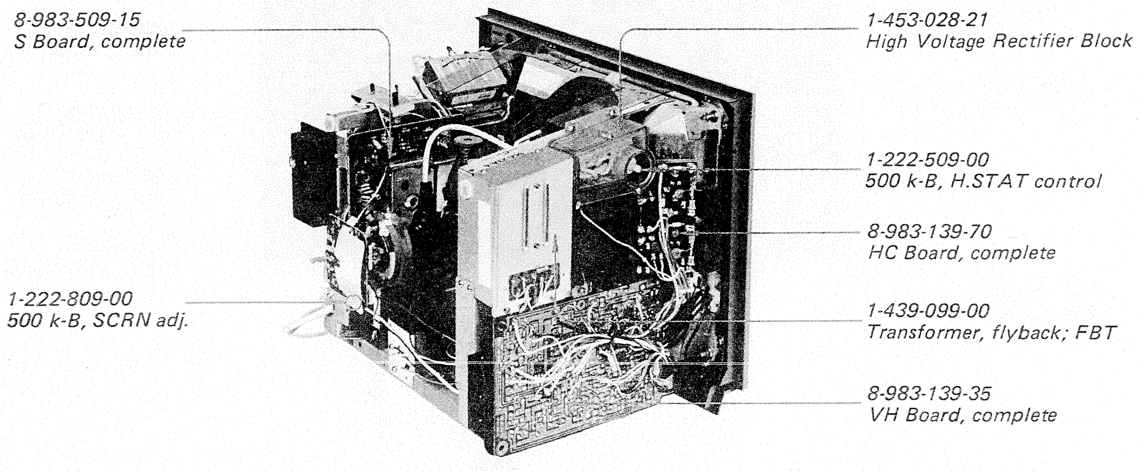

8-983-509-15
S Board, complete
1-222-809-00
500 k-B, SCRN adj.
1-453-028-21
High Voltage Rectifier Block
1-222-509-00
500 k-B, H.STAT control
8-983-139-70
HC Board, complete
1-439-099-00
Transformer, flyback; FBT
8-983-139-35
VH Board, complete

Fig. 1-9. Major parts location

(KV-1330UB)

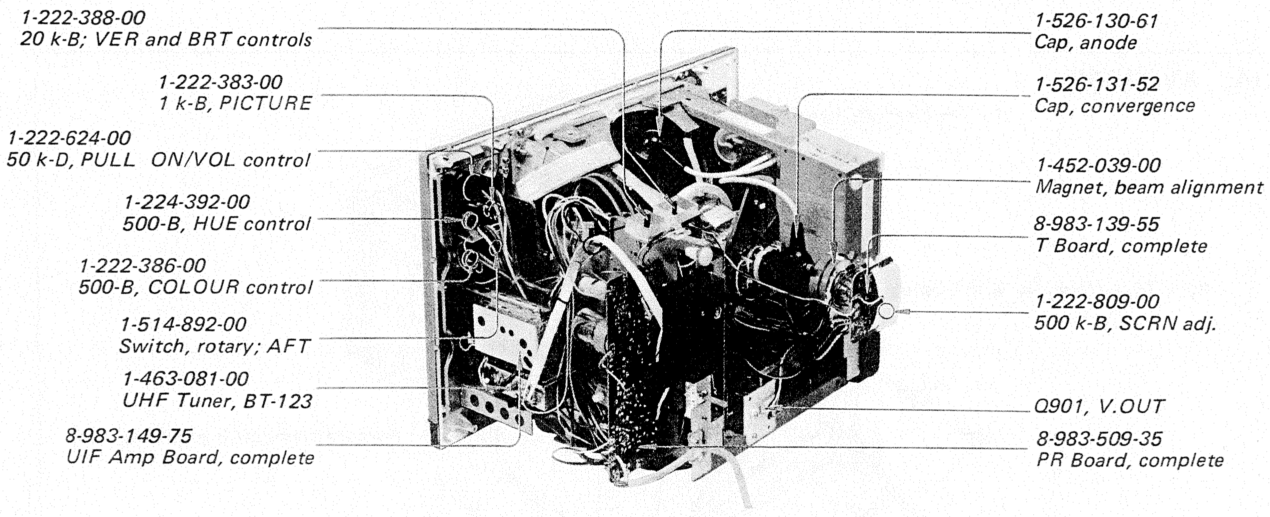

1-222-388-00
20 k-B; VER and BRT controls
1-222-383-00
1 k-B, PICTURE
1-222-624-00
50 k-D, PULL ON/VOL control
1-224-392-00
500-B, HUE control
1-222-386-00
500-B, COLOUR control
1-514-892-00
Switch, rotary; AFT
1-463-081-00
UHF Tuner, BT-123
8-983-149-75
UIF Amp Board, complete
1-526-130-61
Cap, anode
1-526-131-52
Cap, convergence
1-452-039-00
Magnet, beam alignment
8-983-139-55
T Board, complete
1-222-809-00
500 k-B, SCRN adj.
Q901, V.OUT
8-983-509-35
PR Board, complete

Fig. 1-10. Major part location

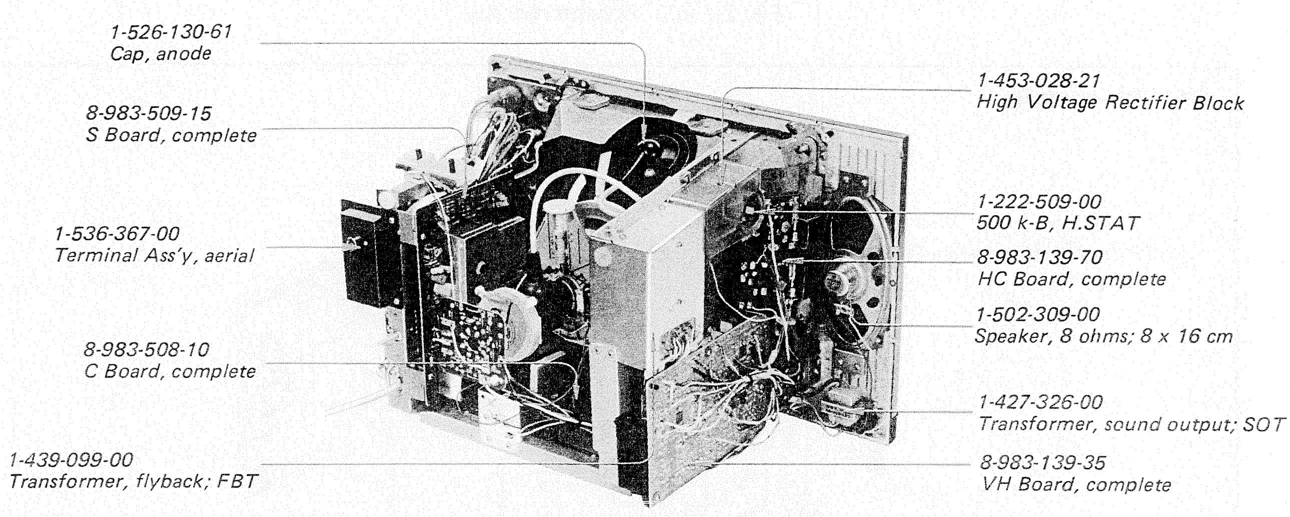

1-526-130-61
Cap, anode
8-983-509-15
S Board, complete
1-536-367-00
Terminal Ass'y, aerial
8-983-508-10
C Board, complete
1-439-099-00
Transformer, flyback; FBT
1-453-028-21
High Voltage Rectifier Block
1-222-509-00
500 k-B, H.STAT
8-983-139-70
HC Board, complete
1-502-309-00
Speaker, 8 ohms; 8 x 16 cm
1-427-326-00
Transformer, sound output; SOT
8-983-139-35
VH Board, complete

Fig. 1-11. Major parts location

SECTION 2

DISASSEMBLY AND REPLACEMENT

Note: All screws in this set are Phillips (cross recess) type.

2-1. CABINET REMOVAL

Circled numbers indicate sequence.

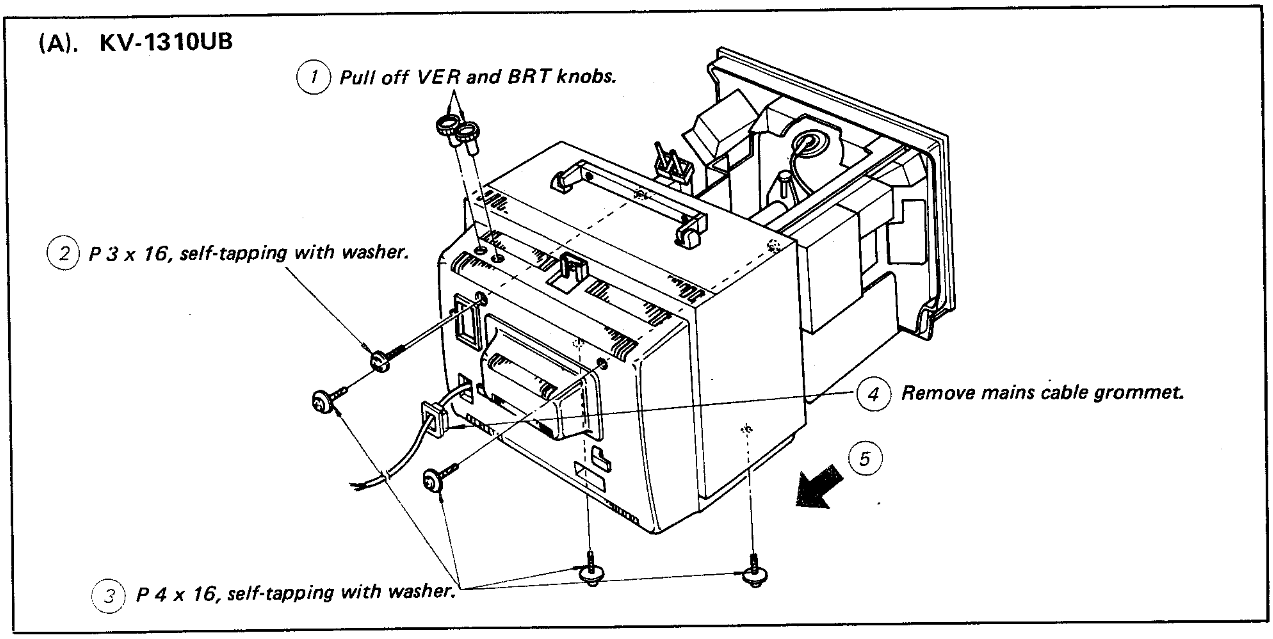

(A). KV-1310UB
① Pull off VER and BRT knobs.
② P 3 x 16, self-tapping with washer.
④ Remove mains cable grommet.
⑤
③ P 4 x 16, self-tapping with washer.

Fig. 2-1 (a) Cabinet removal

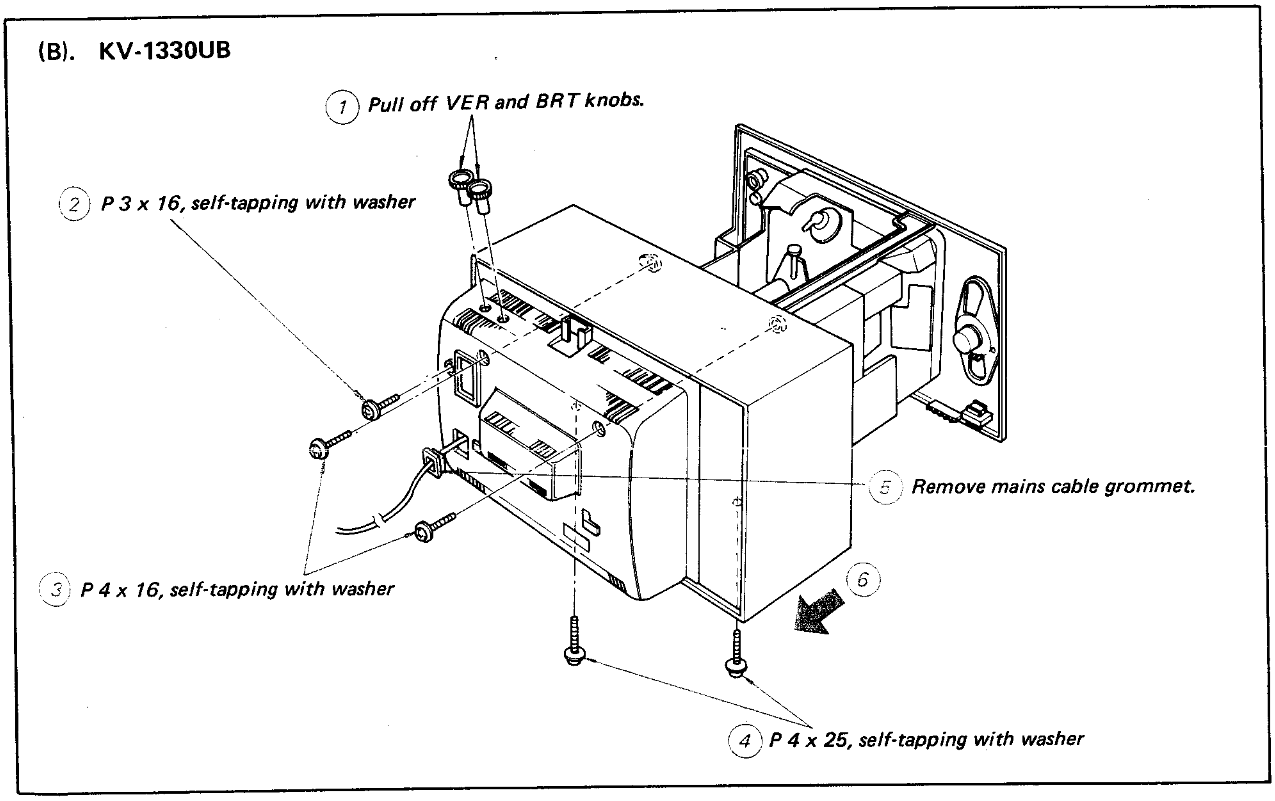

(B). KV-1330UB
① Pull off VER and BRT knobs.
② P 3 x 16, self-tapping with washer
⑤ Remove mains cable grommet.
⑥
③ P 4 x 16, self-tapping with washer
④ P 4 x 25, self-tapping with washer

Fig. 2-1 (b) Cabinet removal

2-2. UHF TUNER REMOVAL AND DIAL CALIBRATION

Remove the cabinet as described in 2-1, and then proceed to following steps.
Circled numbers indicate sequence.

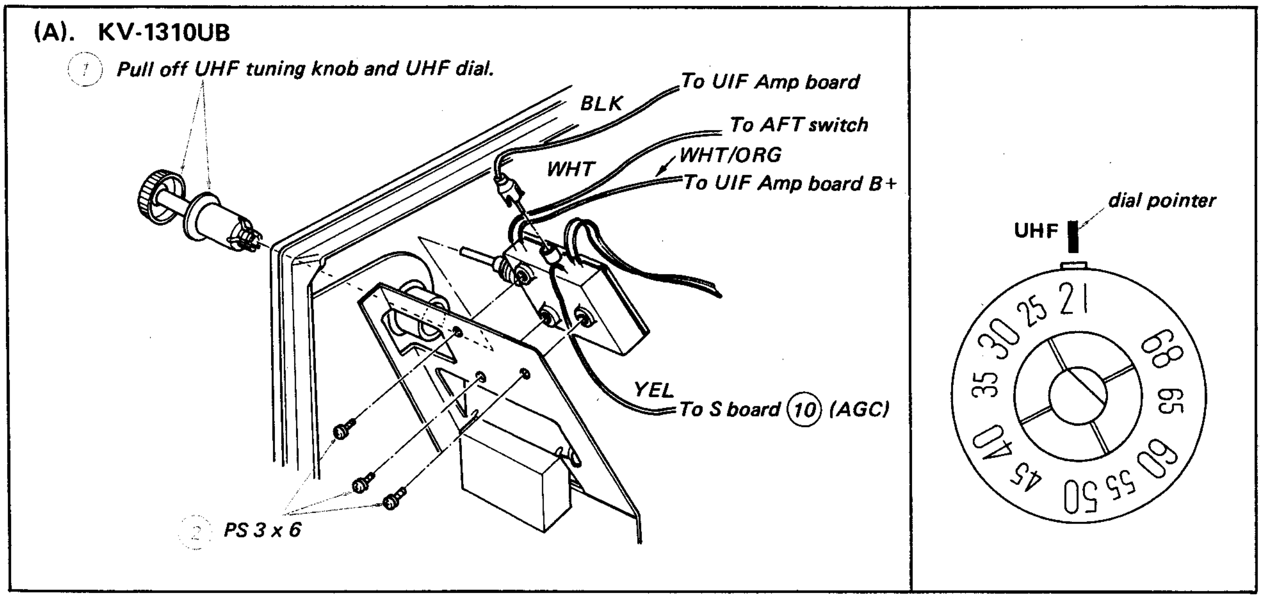

(A). KV-1310UB
① Pull off UHF tuning knob and UHF dial.
BLK
To UIF Amp board
To AFT switch
WHT
WHT/ORG
To UIF Amp board B+
YEL
To S board ⑩ (AGC)
② PS 3 x 6
dial pointer
UHF
21
25
30
35
40
45
50
55
60
65
68

Fig. 2-2 (a) Tuner removal and dial calibration

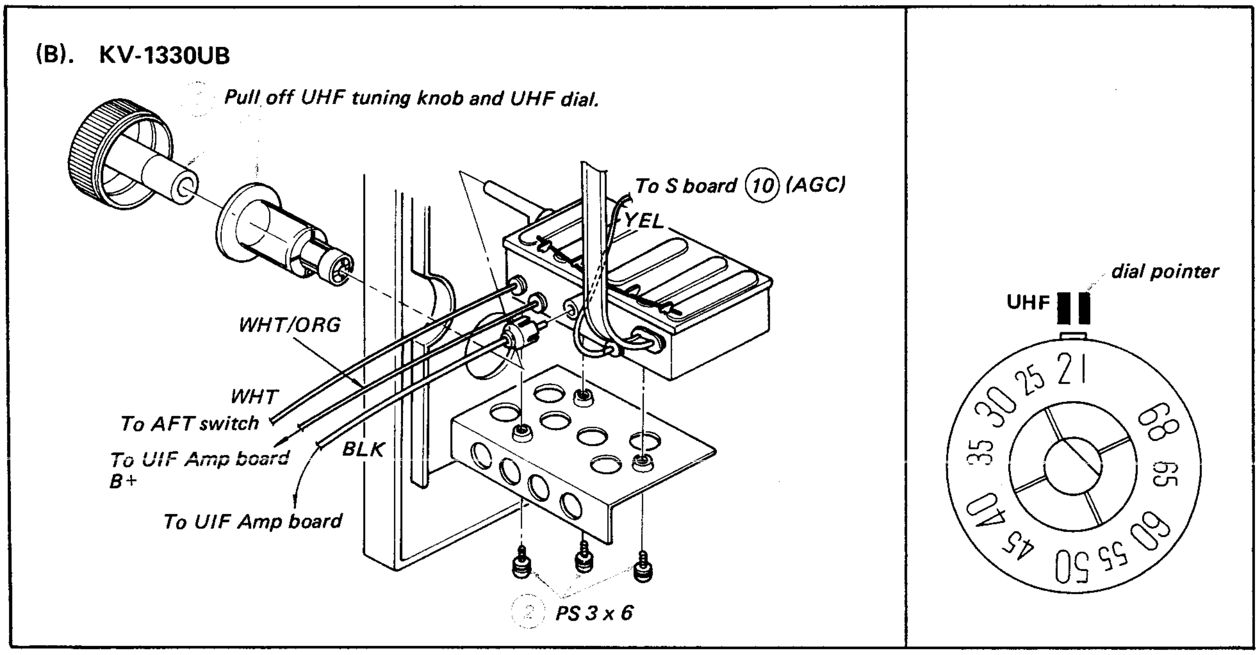

(B). KV-1330UB
① Pull off UHF tuning knob and UHF dial.
To S board ⑩ (AGC)
YEL
WHT/ORG
WHT
To AFT switch
To UIF Amp board B+
BLK
To UIF Amp board
② PS 3 x 6
dial pointer
UHF
21
25
30
35
40
45
50
55
60
65
68

Fig. 2-2 (b) Tuner removal and dial calibration

[UHF Dial Calibration]

Turn the UHF tuner shaft anticlockwise as far as UHF dial will not turn any more, and then set the dial to the position where channel digit "21" meets the pointer as shown.

2-3. SWITCHES, CONTROLS AND PILOT LAMP REPLACEMENT

Remove the cabinet as described in 2-1 first, and then take out the tuner chassis where controls, switches and pilot lamp are mounted. Circled numbers indicate sequence.

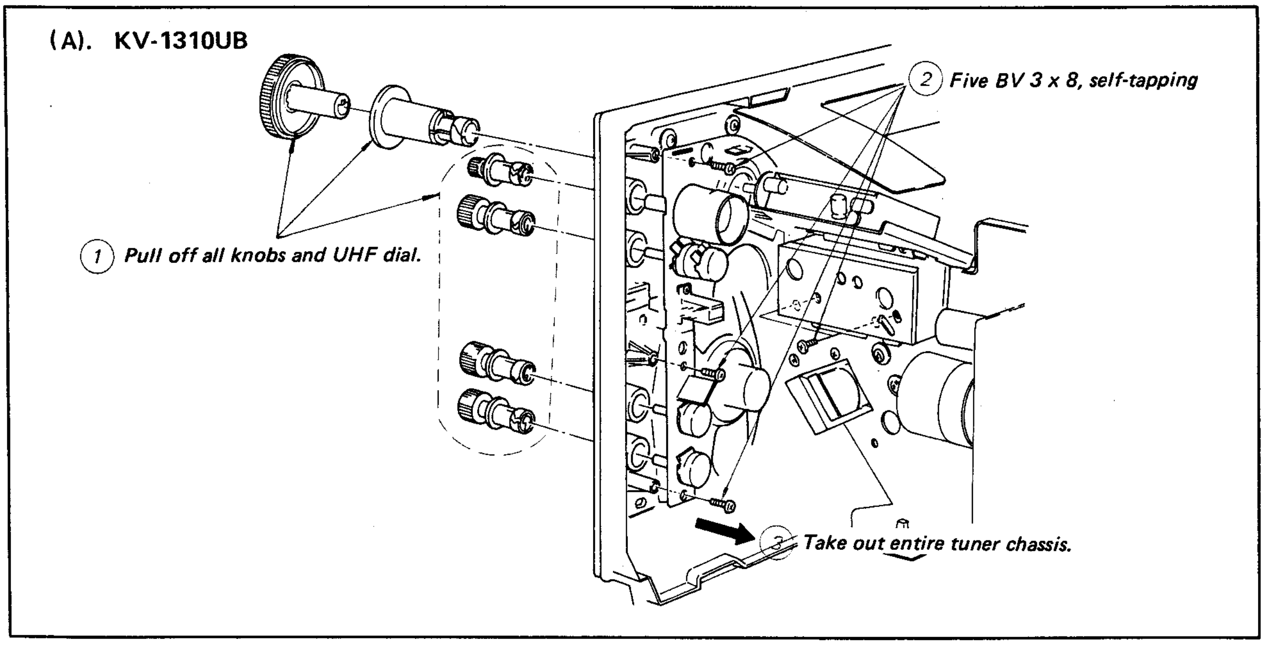

(A). KV-1310UB
② Five BV 3 x 8, self-tapping
① Pull off all knobs and UHF dial.
③ Take out entire tuner chassis.

Fig. 2-3 (a) Tuner chassis removal

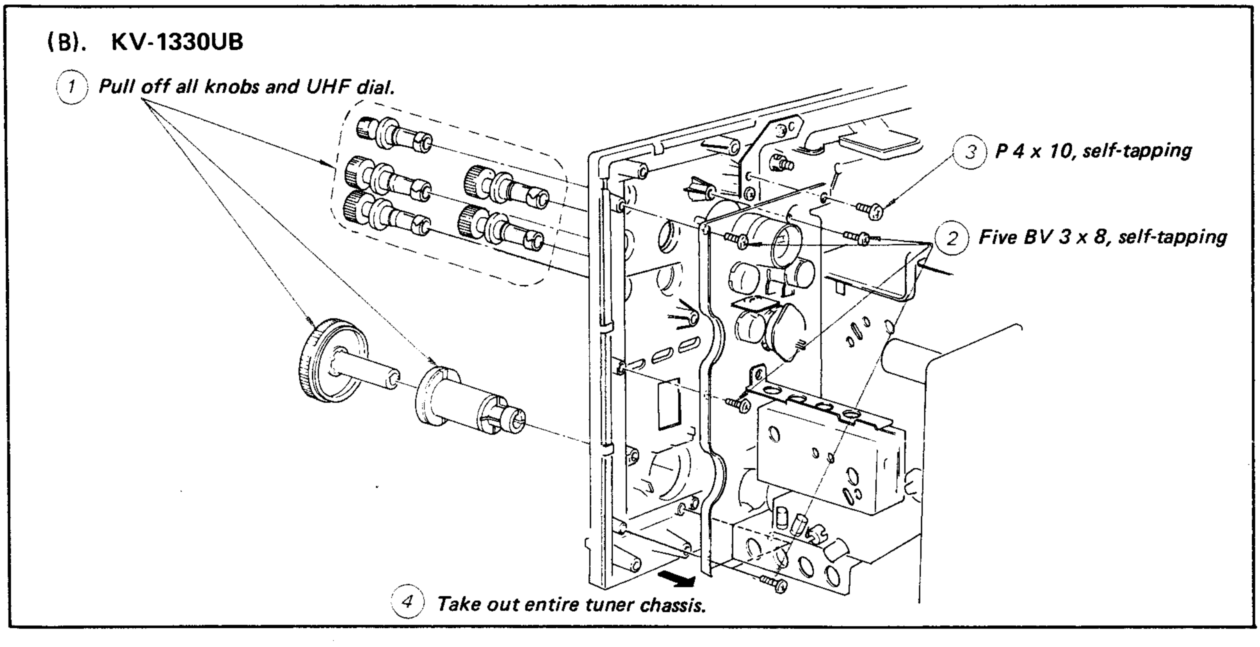

(B). KV-1330UB
① Pull off all knobs and UHF dial.
③ P 4 x 10, self-tapping
② Five BV 3 x 8, self-tapping
④ Take out entire tuner chassis.

Fig. 2-3 (b) Tuner chassis removal

2-4. SPEAKER REMOVAL

(KV-1310UB)

1. Remove the clamp band securing the electrolytic capacitor (mounted on PR board) to the chassis by loosening a BV 3 x 8 self-tapping screw.
2. Move PR board aside to permit the speaker removal.

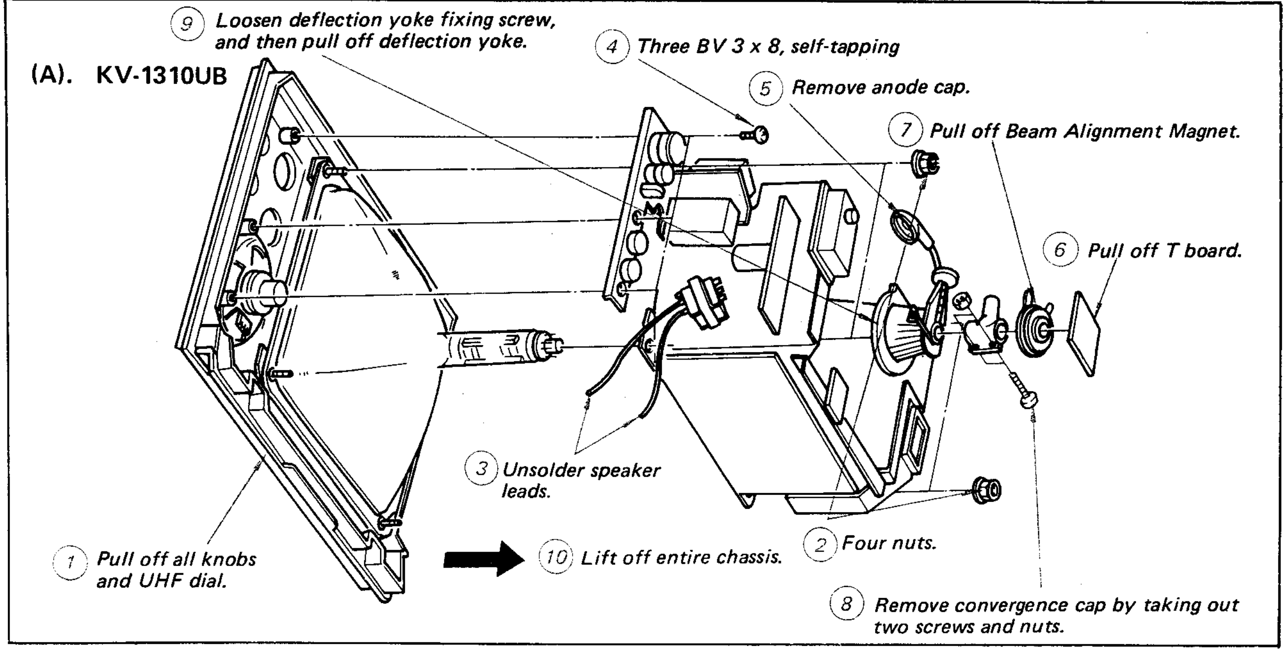
(KV-1330UB)

1. Simply remove the screws securing the speaker bracket to the front mask.

2-5. PICTURE TUBE REPLACEMENT

Remove the cabinet as described in 2-1, and then proceed to the following steps.
Circled numbers indicate sequence.

Note: Place the set on the protective sheet with the tube face down. After completing the replacement, proceed to "Setup Adjustment" as described in Section 3.


(A). KV-1310UB

⑨ *Loosen deflection yoke fixing screw, and then pull off deflection yoke.*

④ *Three BV 3 x 8, self-tapping*

⑤ *Remove anode cap.*

⑦ *Pull off Beam Alignment Magnet.*

⑥ *Pull off T board.*

③ *Unsolder speaker leads.*

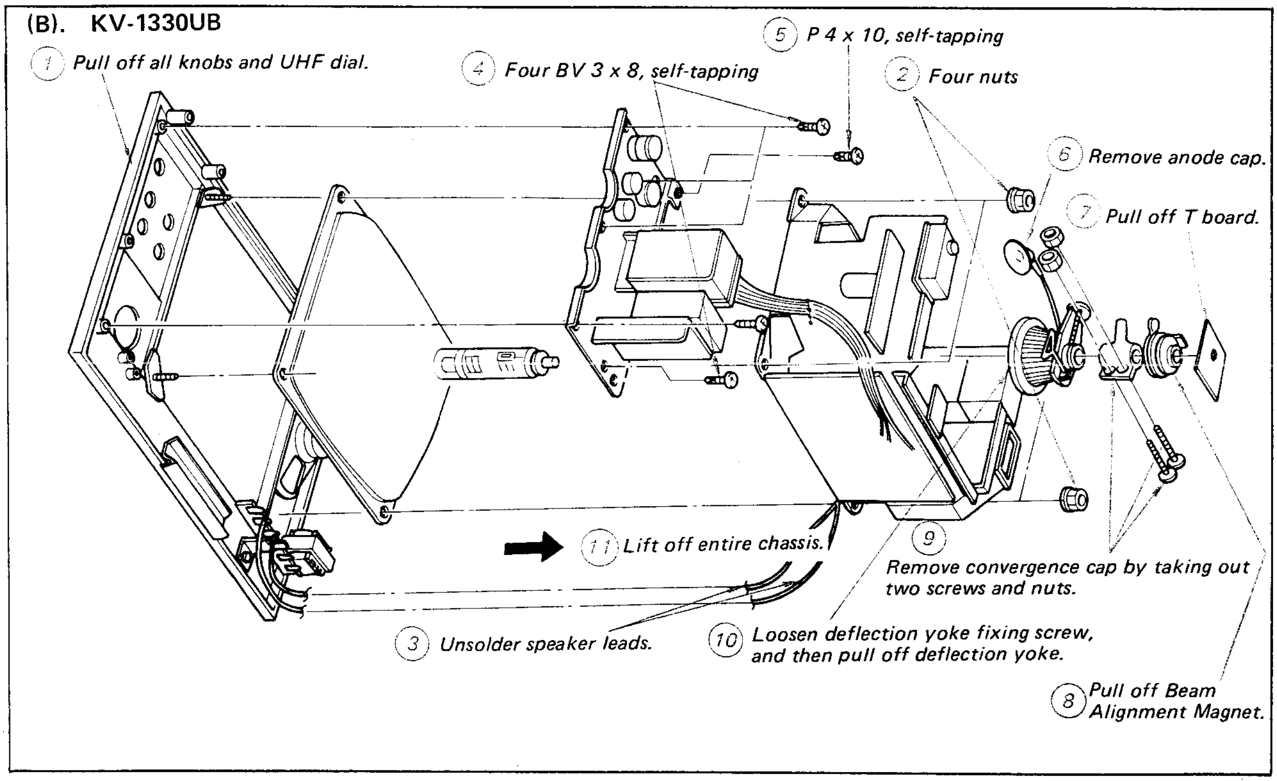
① *Pull off all knobs and UHF dial.*

⑩ *Lift off entire chassis.*

② *Four nuts.*

⑧ *Remove convergence cap by taking out two screws and nuts.*

Fig. 2-4 (a) Picture tube removal


(B). KV-1330UB

① *Pull off all knobs and UHF dial.*

④ *Four BV 3 x 8, self-tapping*

⑤ *P 4 x 10, self-tapping*

② *Four nuts*

⑥ *Remove anode cap.*

⑦ *Pull off T board.*

⑪ *Lift off entire chassis.*

⑨ *Remove convergence cap by taking out two screws and nuts.*

③ *Unsolder speaker leads.*

⑩ *Loosen deflection yoke fixing screw, and then pull off deflection yoke.*

⑧ *Pull off Beam Alignment Magnet.*

Fig. 2-4 (b) Picture tube removal

SECTION 3

SETUP ADJUSTMENTS

CAUTION

The following adjustments should be made when a complete realignment is required or a new picture tube is installed.

Perform the adjustments in following order:

1. Beam Landing Adjustments
2. Convergence Adjustments
3. White Balance Adjustments

Note: Test Equipment Required

1. Colour-bar/pattern generator
2. Degausser

3-1. BEAM LANDING ADJUSTMENTS

Beam landing adjustments ensure correct landing of the three beams on their designated phosphor stripes. Incorrect beam landing results in colour contamination (a predominant hue) in those particular areas of the screen.

Preparation:

Referring to Fig. 3-1, perform the procedures in order.

1. Loosen the deflection yoke fixing screw.
2. Slide the deflection yoke, and then remove the three wedge-shaped rubber spacer.
3. Have the purity magnet at the mid position (minimum magnetic field) by turning the purity control knob as shown.
4. Slide the deflection yoke forward as far as it will go against the funnel of the picture tube.

Procedure: (Refer to Fig. 3-1.)

1. Disconnect the GRN and BLU leads on the T board.
2. Turn on the power switch, and then set the controls as follows:

input signal . . . . cross-hatch pattern from a colour-bar/ pattern generator
BRT control . . . . fully clockwise
PICTURE control . . . . . fully clockwise
AFT switch . . . . ON

The pattern on the screen will be as shown in Fig. 3-2. (a).

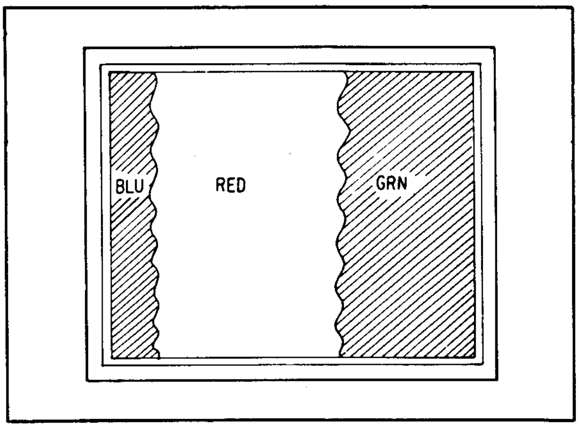


Fig. 3-2 (a). Incorrect purity control

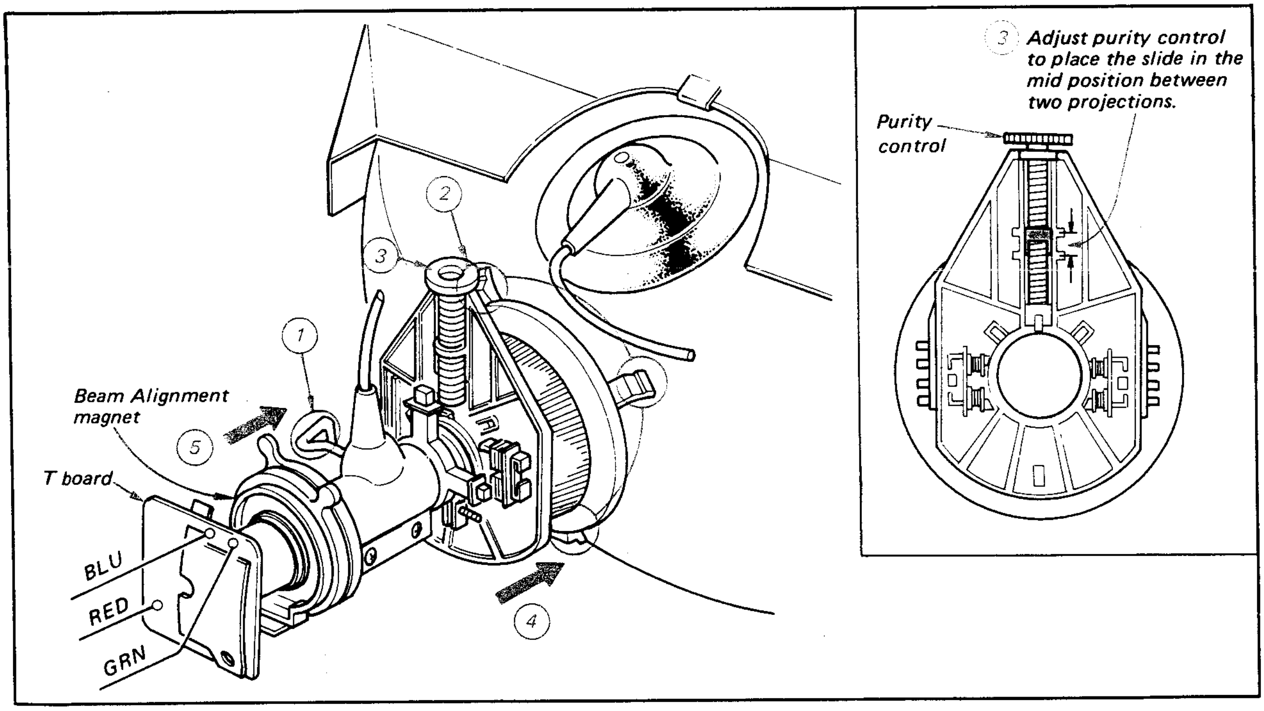

③ Adjust purity control to place the slide in the mid position between two projections.
Purity control
①
②
③
④
⑤
Beam Alignment magnet
T board
BLU
RED
GRN

Fig. 3-1. Beam landing adjustment

3. Degauss the entire screen with a degausser, and then turn the purity control knob to centre the RED band on the screen as shown in Fig. 3-2 (b).
4. Slide the deflection yoke slightly backward to obtain a uniform red over the entire screen, and then temporarily fix the deflection yoke and insert a rubber spacer at the top as shown in Fig. 3-3.

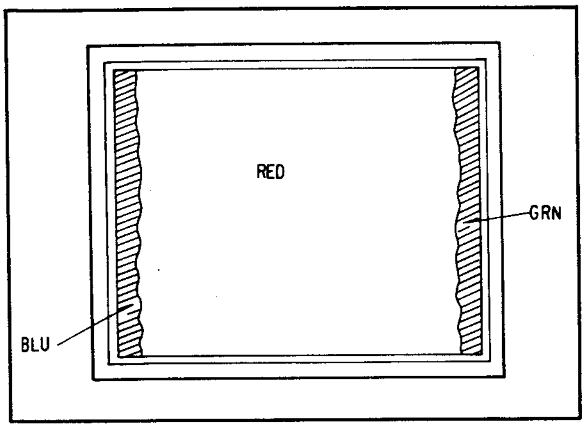


Fig. 3-2 (b). Correct purity control

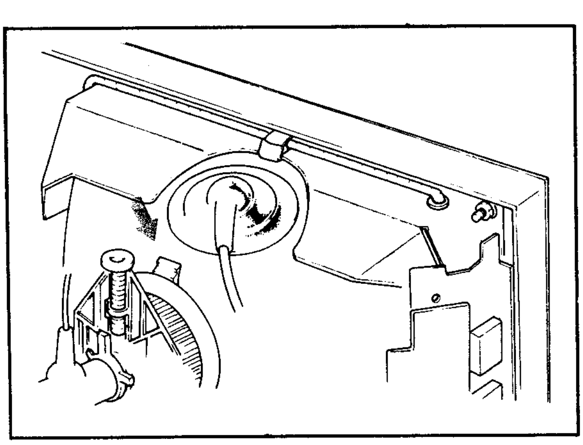


Fig. 3-3. Fixing the deflection yoke temporarily

5. Check Green and Blue raster for uniformity. Repeat the Steps 3 and 4, if necessary.

   Green stripes check . . . . .Disconnect red and blue leads on the T board.

   Blue stripes check . . . . . Disconnect green and red leads on the T board.

6. Tighten the deflection yoke fixing screw, and remove the top rubber spacer inserted in step 4, then reinsert the three rubber spacer temporarily. Care should be taken not to lean the deflection yoke any direction.

7. Check and adjust the beam landing at both sides and each corner as shown in Fig. 3-4 and 3-5.

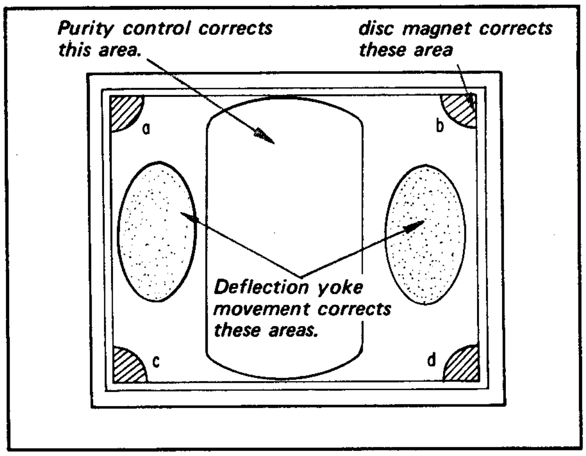

Purity control corrects this area.
disc magnet corrects these area
a
b
c
d
Deflection yoke movement corrects these areas.

Fig. 3-4. Overall check and adjustment of purity

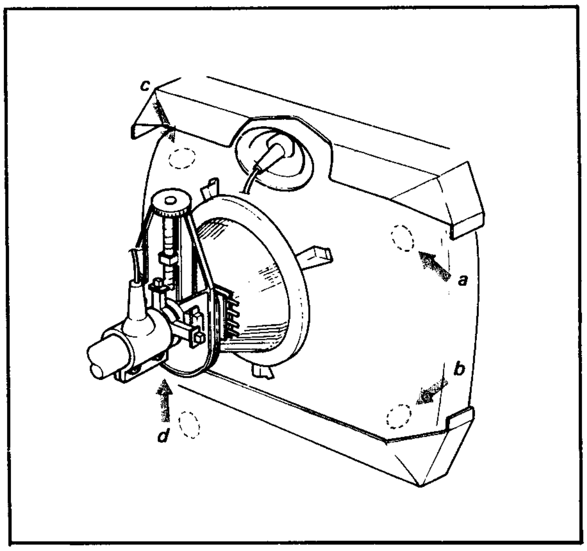


Fig. 3-5. Adjustment of corner mislanding by affixing a small disk magnet

3-2. CONVERGENCE ADJUSTMENTS

These adjustments comprise horizontal and vertical static convergence and dynamic convergence.

Preparation:

1. Beam landing adjustments should be completed before starting the convergence adjustments.
2. The following adjustments should also be completed:
   a. Focus adjustment.
   b. Horizontal size adjustment.
   c. Vertical size and linearity adjustments.
3. Receive the dot pattern from a colour-bar/pattern generator.
4. Set the controls as follows:
   BRT control . . . . fully clockwise
   PICTURE control . . . . . fully clockwise
   AFT switch:. . . . . ON

Horizontal Static Convergence

This adjustment is made to converge the red, green and blue dots horizontally at centre of the screen as shown in Fig. 3-7.

Procedure:

1. Adjust VR801 (H. STAT, See Fig. 3-6) to converge the dots horizontally at centre of the screen, as shown in Fig. 3-7.

Note: Almost all sets do not require adjustment by using HMC (for horizontal static convergence) or VMC (for vertical static convergence) therefore they do not have HMC or VMC magnets. Perform the following procedures only for the sets having them or when correct centre convergence cannot be obtained in above step. For HMC or VMC installation, refer to Fig. 3-6.

2. If only the blue dots do not converge and are shifted in one direction, move the HMC magnet horizontally as necessary, as shown in Fig. 3-6. Note that after moving the HMC magnet, Beam Landing Adjustments and Focus Adjustment should be performed.

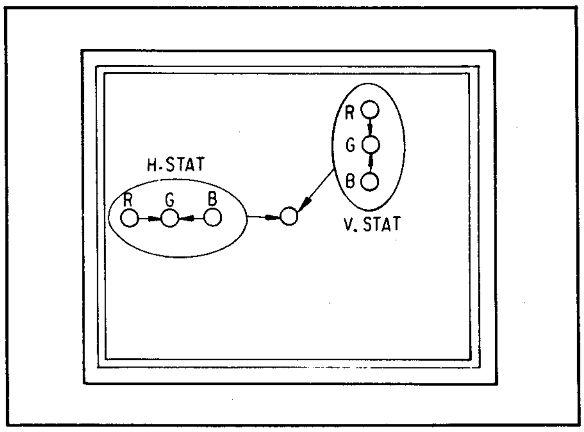
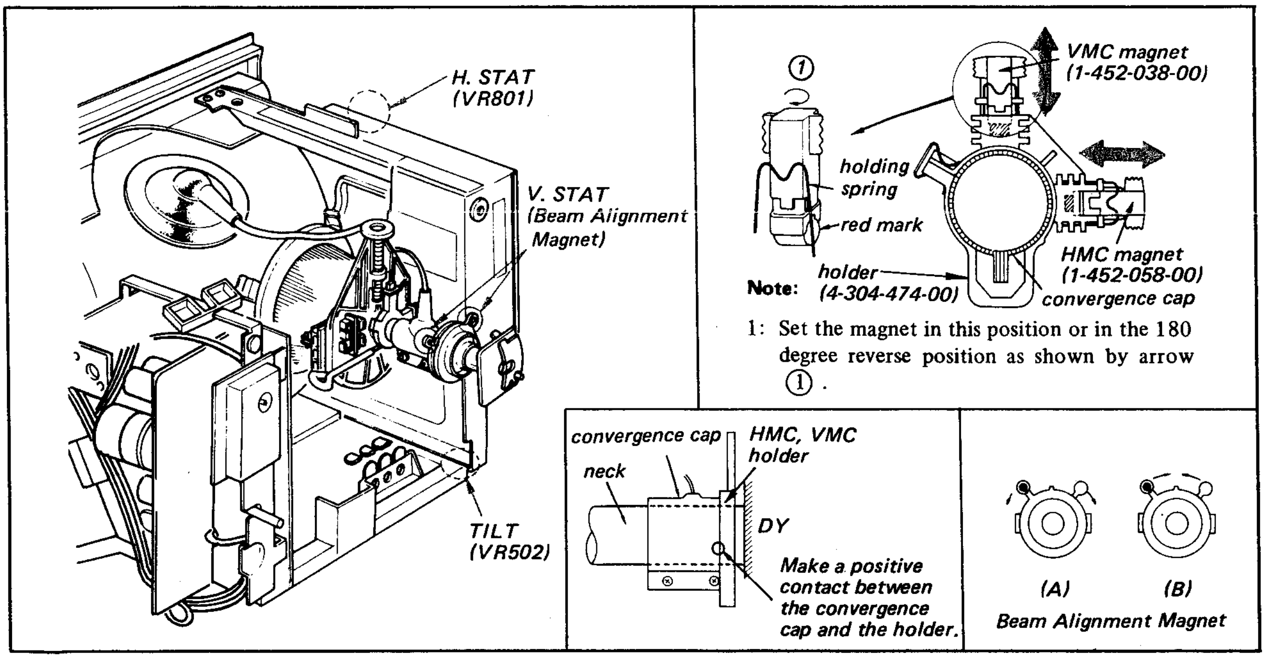

H-STAT
R
G
B
R
G
B
V. STAT

Fig. 3-7. Horizontal and vertical static convergence adjustment


H. STAT
(VR801)
V. STAT
(Beam Alignment
Magnet)
TILT
(VR502)
①
VMC magnet
(1-452-038-00)
holding
spring
red mark
holder
(4-304-474-00)
HMC magnet
(1-452-058-00)
convergence cap
convergence cap
neck
HMC, VMC
holder
DY
Make a positive
contact between
the convergence
cap and the holder.
(A)
(B)
Beam Alignment Magnet

Note: 1: Set the magnet in this position or in the 180 degree reverse position as shown by arrow ①.

Fig. 3-6. Adjustment parts location of static convergence

Vertical Static Convergence

This adjustment is made to converge the red, green and blue dots vertically at centre of the screen.

Procedure:

1. Move the two tabs of beam alignment maget (attached at the end of picture tube neck) equal amounts in opposite directions (See Fig. 3-6) so that the red and blue dots converge with green dots as shown in Fig. 3-7.
2. If only the blue dots do not converge and shifted in one direction, move the VMC magnet vertically as necessary, as shown in Fig. 3-6. Note that after moving the BMC magnet, Beam Landing Adjustments and Focus Adjustment should be performed.

Dynamic Convergnece Adjustment

[Misconvergence at Both Sides of Screen.]

Procedure:

1. Adjust VR502 (TILT, See Fig. 3-8) for best convergence at both sides as shown in Fig. 3-9. If side misconvergence persists, proceed to Step 2.
2. Try connecting Ⓐ to (A1) , (A2) or (A3) on the printed pattern (one by one) of VH board (TILT AMP) as shown in Fig. 3-8. Make connection which gives best result permanent.

[Top and Bottom Misconvergence]

1. To correct misconvergence of the type shown in Fig. 3-10 and Fig. 3-11, raise or lower the front edge of the deflection yoke after loosening the deflection yoke fixing screw as shown in Fig. 3-12. Take care not to move the deflection yoke forward or backward.
2. Secure the yoke in place by inserting three wedge-shaped rubber spacers, and then tighten the deflection yoke fixing screw.

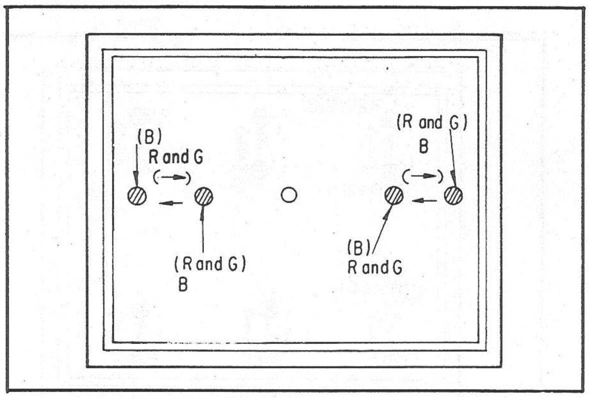


Fig. 3-9. Left and right convergence adjustment

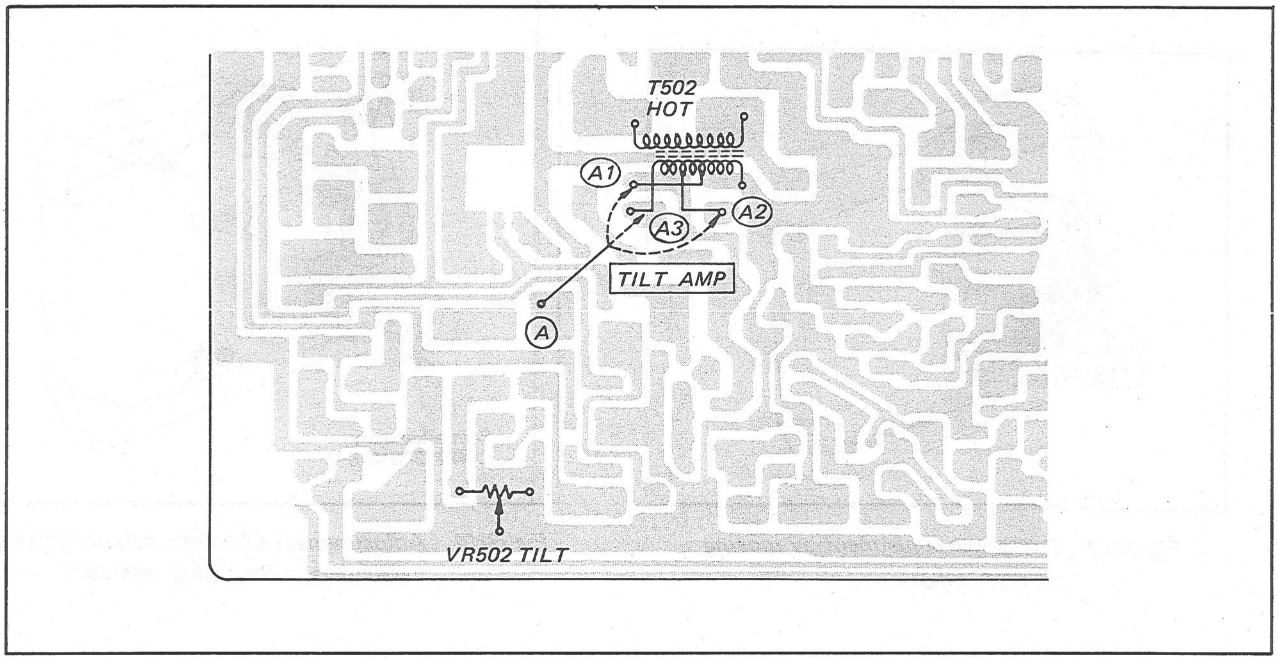


Fig. 3-8. Parts location and adjustment portion on VH board

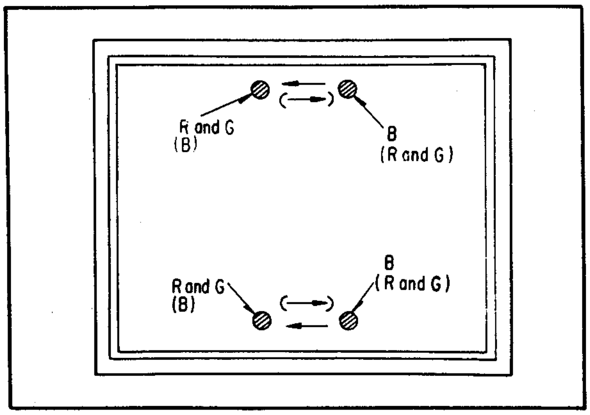

R and G
(B)
B
(R and G)
R and G
(B)
B
(R and G)

Fig. 3-10. Top and bottom convergence adjustment (1)

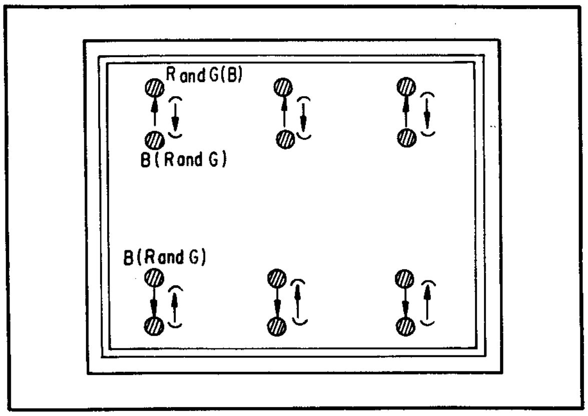

R and G(B)
B(R and G)
B(R and G)

Fig. 3-11. Top and bottom convergence adjustment (2)

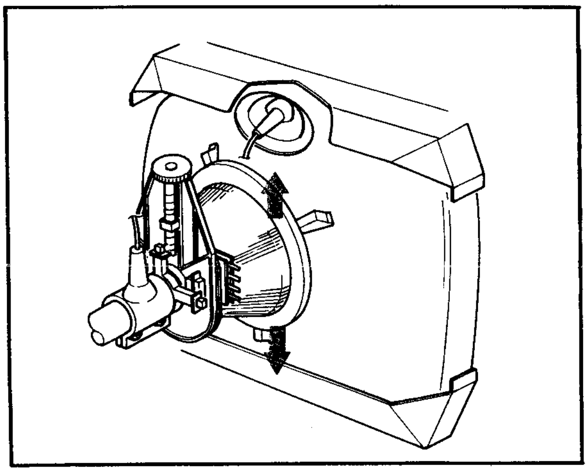


Fig. 3-12. Convergence adjustment by moving deflection yoke

Screen-corner Convergence Adjustment

This adjustment is made to correct corner misconvergence as shown in Fig. 3-13.

Procedure:

Note: Do not attempt to move the front edge of the deflection yoke to correct the misconvergence.

1. Attach a permalloy assembly (Part No. X-4302-401-0) for best results at the affected area. See Figures 3-13 and 3-14.

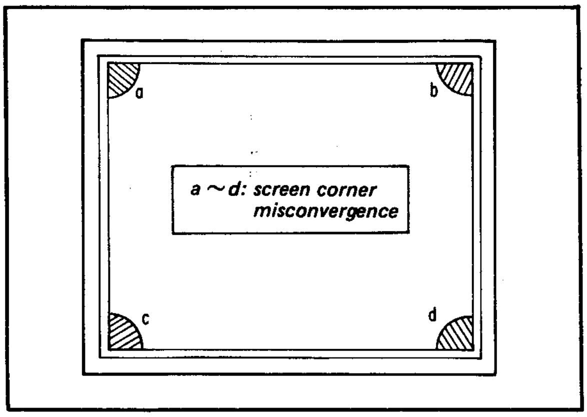

a
b
a ~ d: screen corner misconvergence
c
d

Fig. 3-13. Screen-corner convergence adjustment

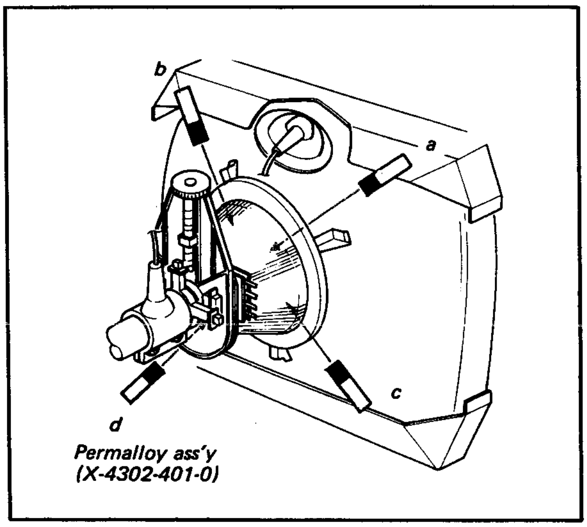

b
a
c
d
Permalloy ass'y
(X-4302-401-0)

Fig. 3-14. Adjustment of corner misconvergence by affixing a permalloy assembly

3-3. WHITE BALANCE ADJUSTMENTS

These adjustments are made only when the white balance is incorrect or a new picture tube is installed.

Preparation:

1. Beam landing and convergence adjustments should be completed before starting the white balance adjustments.
2. Receive the crosshatch pattern from the colour-bar/pattern generator.
3. Referring to Fig. 3-15, set the adjustment controls as follows:
   VR156, VR154 and VR152 .... fully anticlockwise (minimum)
   (Red, Green and Blue Background Adj. controls)
   VR155, VR153 and VR151 .... fully clockwise (maximum)
   (Red, Green and Blue Drive Adj. controls)

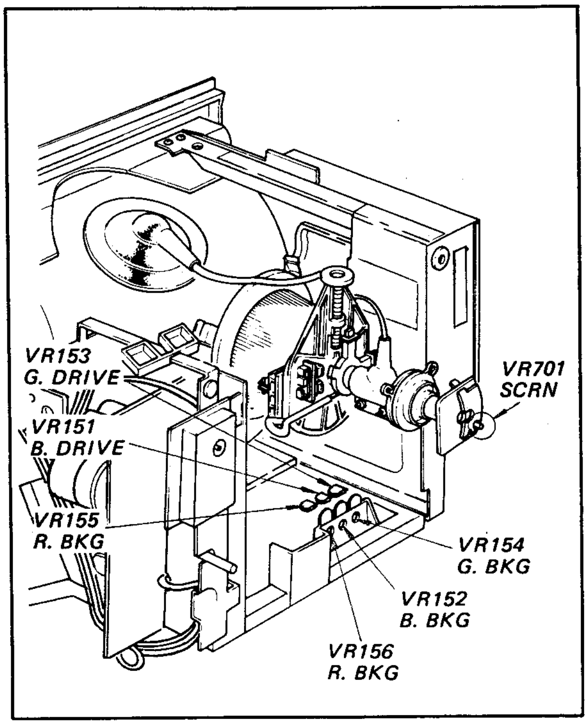


Fig. 3-15. Adjustment parts location

Procedure: (Refer to Fig. 3-15.)

1. Turn the BRT and PICTURE controls fully anticlockwise.
2. Turn VR701 (SCRN) slowly to obtain a crosshatch that is faintly visible. Note the colour which becomes visible first when increasing brightness of picture by turning VR701. The Background Adj. control of that colour should be kept minimum.
3. Adjust the other two Background Adj. controls for best white balance (neutral gray at faintly visible screenlight.
4. Turn the BRT and PICTURE controls fully clockwise. Observe the screen and adjust the Drive Adj. controls for best white balance if necessary.
5. Repeat the above steps several times. This time, do not touch up VR701.

SECTION 4

CIRCUIT ADJUSTMENTS

4-1. TEST EQUIPMENT REQUIRED

1. Oscilloscope
2. DC Voltmeter or VOM
3. Colour-bar/pattern generator

4-2. CONTROL SETTINGS FOR CHECKS AND ADJUSTMENTS

Controls and switches should be set as follows when performing checks and adjustments unless otherwise noted.

PICTURE, BRT.
HUE,
COLOUR controls . . . . . . set for best picture
VER control . . . . set for stable picture
AFT switch . . . . ON

4-3. POWER REGULATOR ADJUSTMENT

Note: Check 110 V B+ before making any other adjustment and perform this adjustment if necessary.

ITEM	*PREPARATION*	*ADJUST*	*PROCEDURE*
Power Regulator Adjustment	1. Receive an off-the-air signal. 2. Verify ac power to be 240 V.	VR601 (on PR board, See Fig. 4-1)	Referring to Fig. 4-1, 1. Adjust VR601 to obtain 110 V at the terminal ③ .

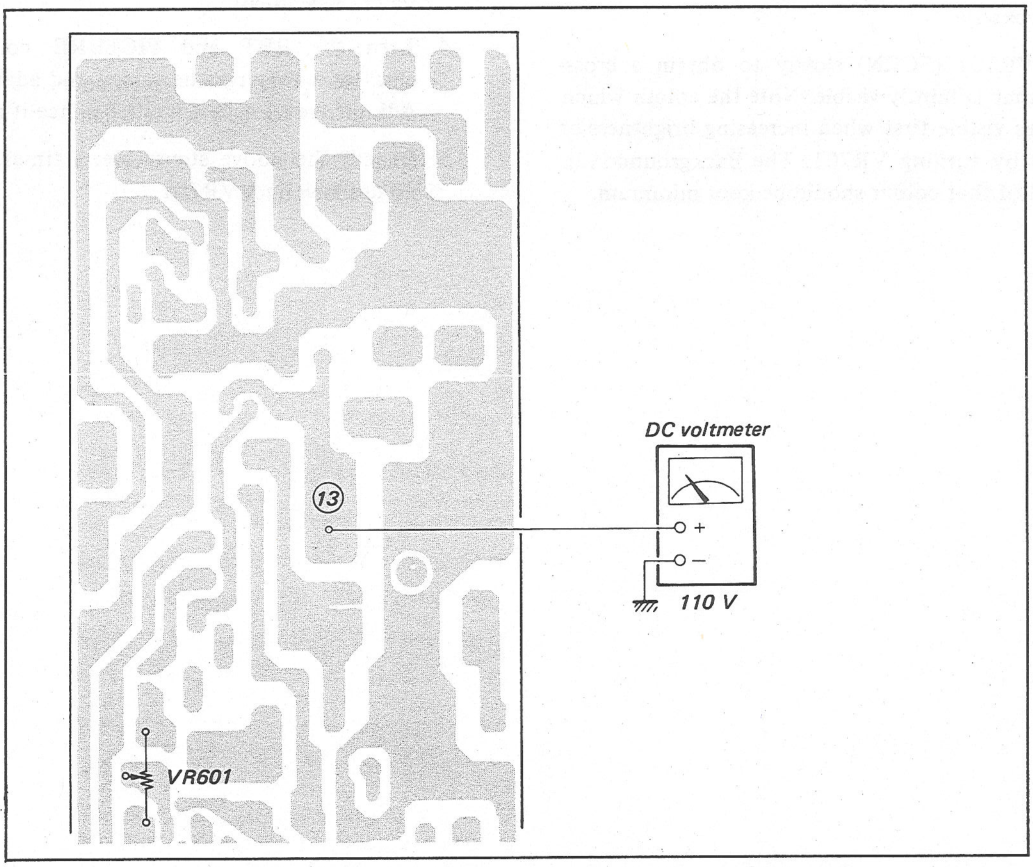


Fig. 4-1. Adjustment setup and parts location on PR board

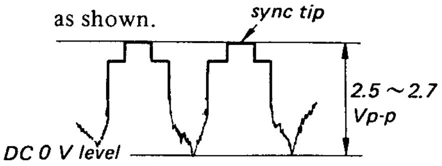
4-4. TUNER AGC ADJUSTMENT

Note: This adjustment should be made when noise (snow) is observed on all channels. If noise (snow) is persisting, check and replace the tuner.

ITEM	*PREPARATION*	*ADJUST*	*PROCEDURE*
UHF Tuner AGC Adjustment	1. Receive an off-the-air signal on a high numbered channel.	VR201 (on S board, See Fig. 4-2)	1. Adjust VR201 so that noise (snow) just disappears. 2. Check all UHF channels for noise-free reception.

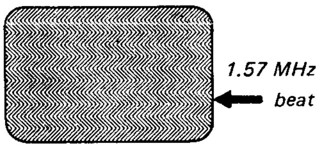
4-5. DETECTOR OUTPUT ADJUSTMENT

Note: This adjustment should be made when the picture becomes scrambled or when only noise (snow) is observed and no picture.

ITEM	*PREPARATION*	*ADJUST*	*PROCEDURE*
Detector Output Adjustment	1. Receive an off-the-air signal. 2. Connect an oscilloscope to terminal ① on S board as shown in Fig. 4-2.	VR203 (on S board, See Fig. 4-2)	1. Adjust VR203 for 2.5 ~ 2.7 Vp-p from sync tip to DC 0 V level as shown. 

4-6. TUNER AFT ADJUSTMENT

Note: This adjustment should be made if the AFT circuit does not operate properly. This is recognized by observing an off-the-air signal.

ITEM	*PREPARATION*	*ADJUST*	*PROCEDURE*
AFT Adjustment	1. Receive an off-the-air signal. 2. Set AFT switch to "OFF". 3. Turn the tuning knob clockwise to produce 1.57 MHz beat on the screen as shown.  	T212 (AFT-T4) (on S board, See Fig. 4-2)	1. Set the tuning knob to the point where 1.57MHz beat just disappears by turning it counterclockwise slowly. 2. Set AFT switch to "ON". 3. Set T212 to the position where 1.57 MHz beat just disappears.

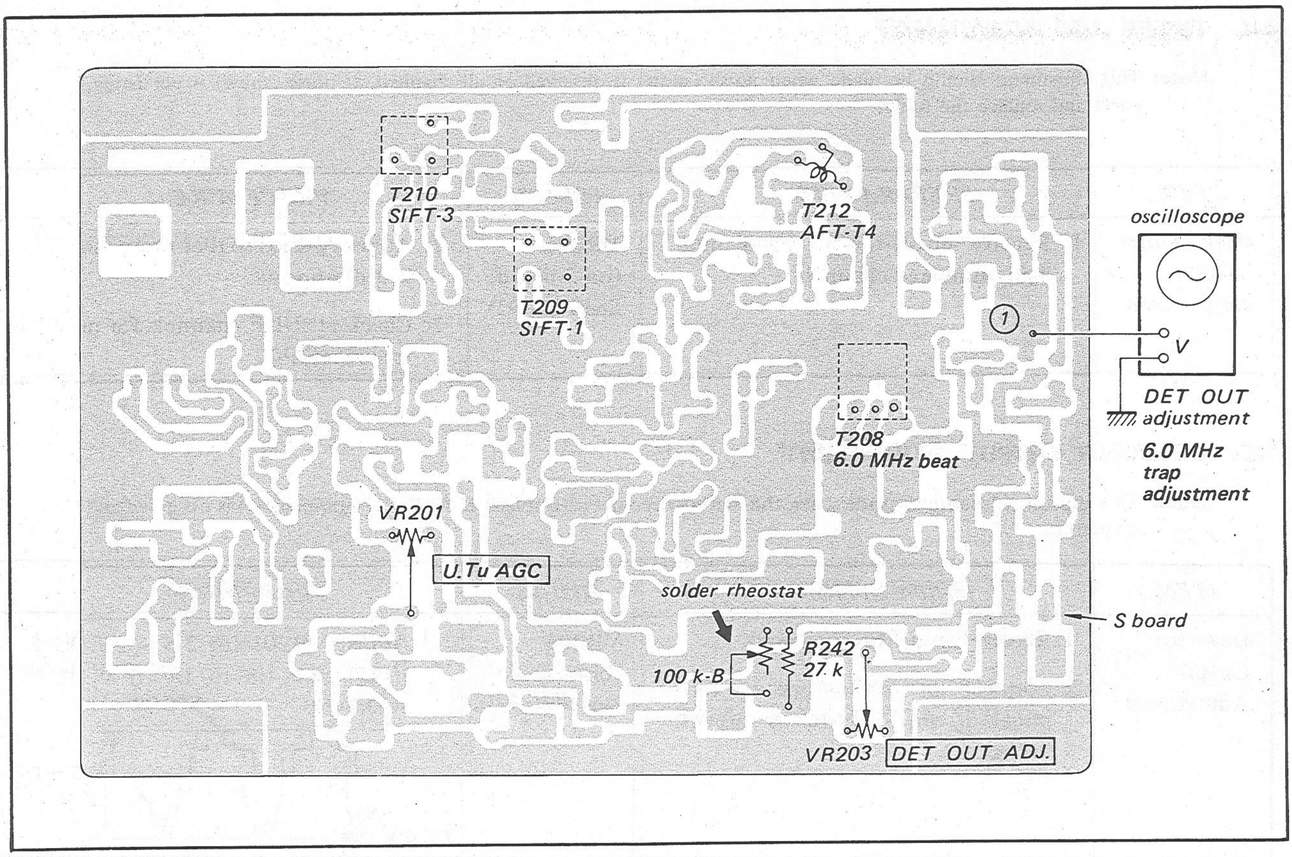
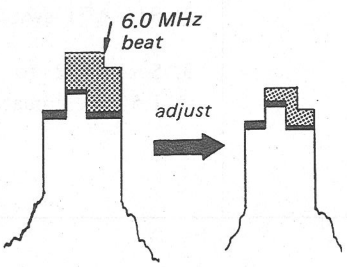

T210
SIFT-3
T212
AFT-T4
T209
SIFT-1
oscilloscope
①
V
DET OUT adjustment
T208
6.0 MHz beat
6.0 MHz trap adjustment
VR201
U.Tu AGC
solder rheostat
S board
R242
27 k
100 k-B
VR203
DET OUT ADJ.

Fig. 4-2. Adjustment setup and parts location on S board

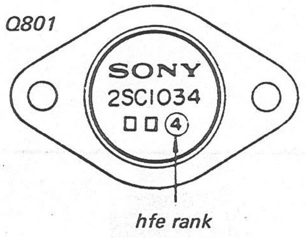
4-7. SOUND I-F ADJUSTMENT

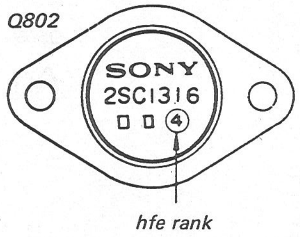
Note: This adjustment should be made if SIF (SOUND I-F) transformer is replaced or when buzzing is heard.

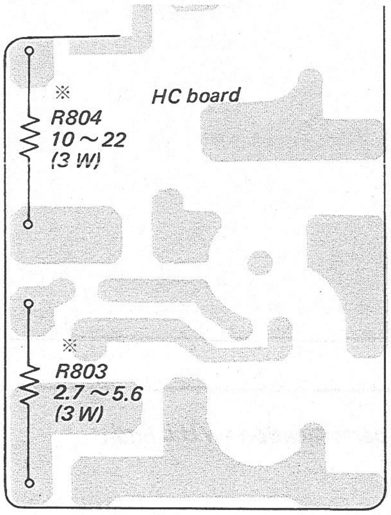
ITEM	PREPARATION	ADJUST	PROCEDURE
Sound I-F Adjustment	1. Receive an off-the-air signal. 2. Adjust VR903 (VOL control) to hear a faint sound.	T210 (SIFT-3) T209 (SIFT-1) (on S board, See Fig. 4-2)	1. Adjust T210 to obtain maximum and clear sound. 2. Connect a 100 k ohm-B rheostat in parallel with resistor R242 (27 k ohm) as shown in Fig. 4-2. 3. Set the 100 k ohm-B rheostat so that the picture just disappears. 4. Adjust T209 to obtain maximum and clear sound. 5. Check that no buzzing is heard from the speaker.
6.0 MHz Trap Adjustment	 6.0 MHz beat adjust 1. Receive an off-the-air signal. 2. Connect an oscilloscope to terminal ① on S board as shown in Fig. 4-2.	T208 (6.0 MHz trap) (on S board, See Fig. 4-2)	1. Turn the tuning knob slowly to obtain 6.0 MHz beat on the scope as shown. 2. Adjust T208 to minimize the beat on the scope.

4-8. DEFLECTION CIRCUIT ADJUSTMENTS

Note: This adjustment should be made if display on the screen appears to be defective due to deflection or focus circuit trouble.

<table>
<tr><th>ITEM</th><th>PREPARATION</th><th>ADJUST</th><th>PROCEDURE</th></tr>
<tr><td>Horizontal Frequency Adjustment</td><td>1. Receive an off-the-air signal.
2. Unsolder WHT lead at the base of Q309 (terminal ㉛) on C board.</td><td>VR501 (H. FREQ.) (on VH board, See Fig. 4-3)</td><td>1. Adjust VR501 to obtain a single upright picture that “floats” from side to side. If a single upright picture cannot be obtained, proceed to next step.
2. Note the settings that produce equal numbers of slanting bars and set VR501 in the centre between these settings.
3. Resolder the WHT lead.</td></tr>
<tr><td>Horizontal Output and Horizontal Converter Drive Adjustment</td><td>




</td><td>R803
R804
(on HC board, as shown)</td><td>1. If a horizontal output transistor has been replaced, change R803 according to the hfe rank of transistor as shown in the table below.
<table>
<tr><th>Q801 hfe rank</th><th>R803</th></tr>
<tr><td>2SC1034-3</td><td>2.7 Ω</td></tr>
<tr><td>2SC1034-4</td><td>4.7 Ω</td></tr>
<tr><td>2SC1034-5</td><td>5.6 Ω</td></tr>
</table>
2. If a horizontal converter transistor has been replaced, change R804 according to the hfe rank of transistor as shown in the table below.
<table>
<tr><th>Q802 hfe rank</th><th>R804</th></tr>
<tr><td>2SC1316-2</td><td>10 Ω</td></tr>
<tr><td>2SC1316-3</td><td>15 Ω</td></tr>
<tr><td>2SC1316-4</td><td>18 Ω</td></tr>
<tr><td>2SC1316-5</td><td>22 Ω</td></tr>
</table></td></tr>
</table>

ITEM	*PREPARATION*	*ADJUST*	*PROCEDURE*
Vertical Output Bias (Q509) Adjustment	1. Connect a DC voltmeter between the emitter of Q509 and ground as shown in Fig. 4-3.	VR508 (V. BIAS) (on VH board, See Fig. 4-3)	1. Adjust VR508 for 0.6 V reading. 2. Check that V. SIZE and V. LIN are correctly adjusted.
Vertical Size and Linearity Adjustments	1. Receive an off-the-air signal.	VR506 (V. SIZE) VR507 (V. LIN) (on VH board, See Fig. 4-3)	1. Adjust VR506 and VR507 for best size and linearity.

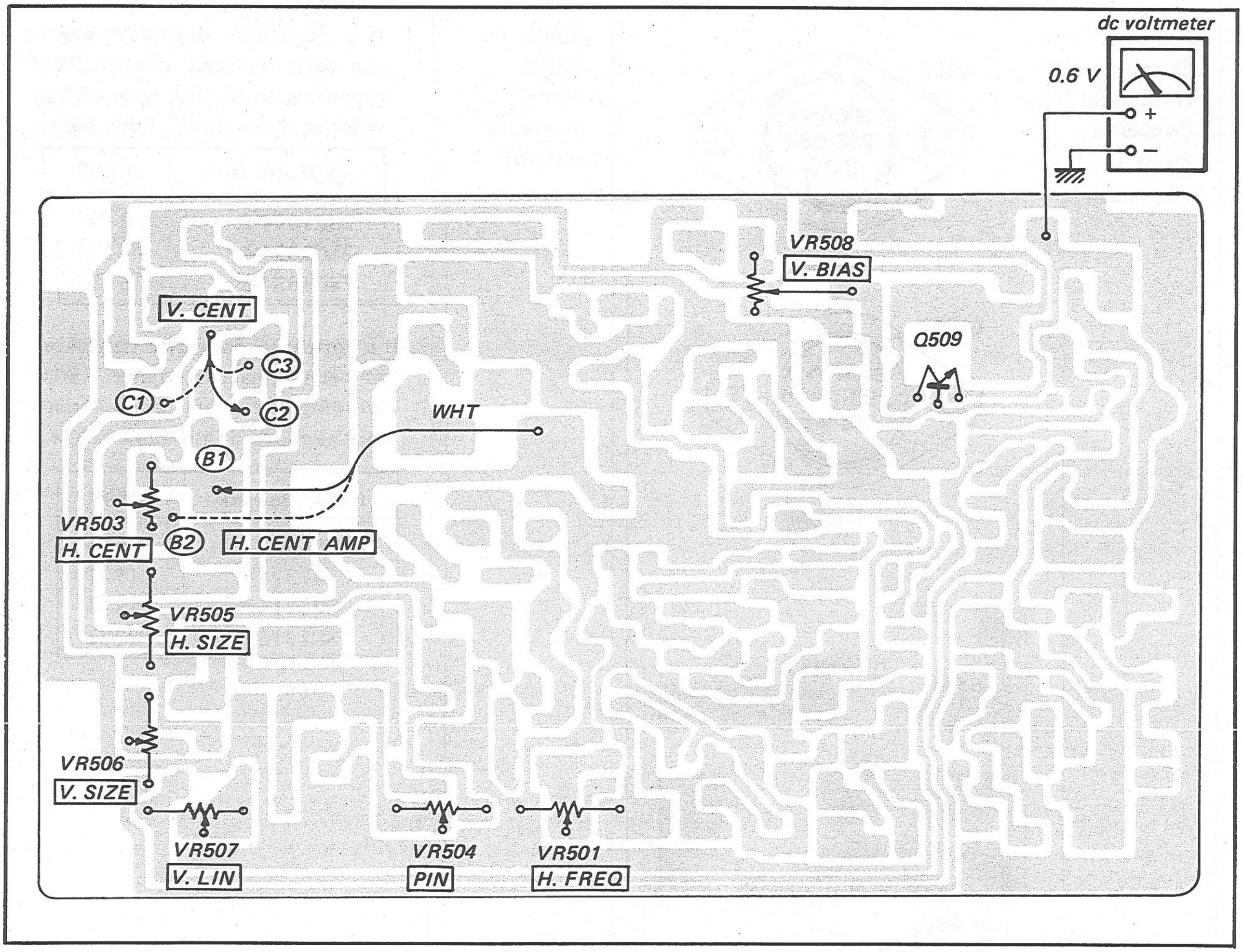

dc voltmeter
0.6 V
+
–
VR508
V. BIAS
Q509
V. CENT
C3
C1
C2
WHT
B1
VR503
H. CENT
B2
H. CENT AMP
VR505
H. SIZE
VR506
V. SIZE
VR507
V. LIN
VR504
PIN
VR501
H. FREQ

Fig. 4-3. Adjustment setup and parts location on VH board

ITEM	PREPARATION	ADJUST	PROCEDURE
Vertical Centring Adjustment	1. Receive a test pattern signal.	V. CENT (on VH board, See Fig. 4-3)	1. Try connecting the vertical centring lead (WHT) to each of the connection points (C1,C2,C3) one by one to find out which connection yields best V. centring and make that connection permanent.
Horizontal Centring Adjustment	1. Receive a test pattern signal.	VR503 (H. CENT) (H. CENT AMP) (on VH board, See Fig. 4-3)	1. Adjust VR503 to obtain best H. centring. If correct centring is not obtained, proceed to the next step. 2. Change the connection of jumper lead (WHT) on VH board from B1 to B2, and then readjust VR503.
Horizontal Size Adjustment	1. Receive a test pattern signal.	VR505 (H. SIZE) (on VH board, See Fig. 4-3)	1. Adjust VR505 to make the Horiz. diameter of the outer circle on the test pattern equal to the width of the screen.
Focus Adjustment	1. Receive an off-the-air signal.	FOCUS (on T board, See Fig. 4-4)	1. Try connecting the jumper lead (WHT) to each of the connection points (F1 , F2 , F3) one by one, to find the one that yields best focus and make it permanent.
Pincushion Correction Adjustment	1. Receive the crosshatch signal from a colour-bar/pattern generator.	VR504 (PIN) (on VH board, See Fig. 4-3)	1. Adjust VR504 for minimum pincushion distortion as shown in Fig. 4-5. 2. Readjust VR505 (H. SIZE) after completing this adjustment.

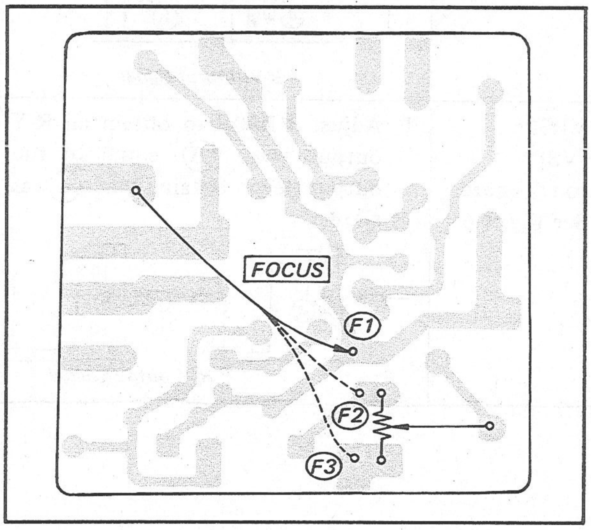


Fig. 4-4. Focus adjustment

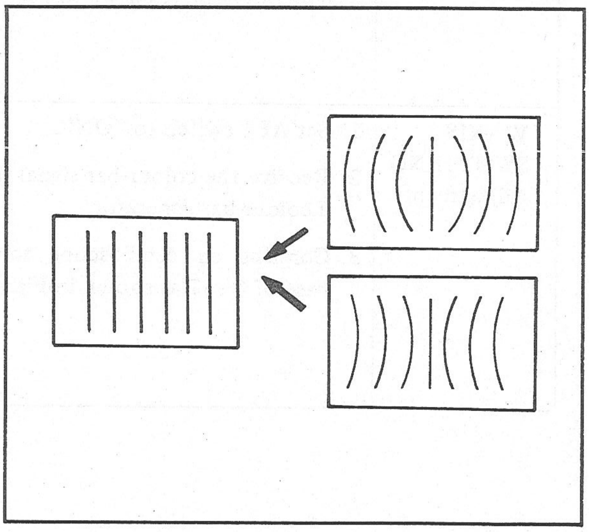
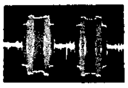
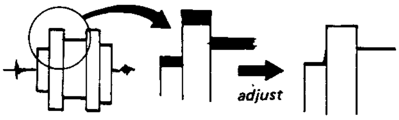
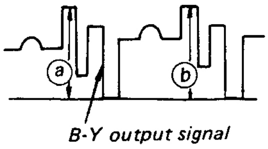
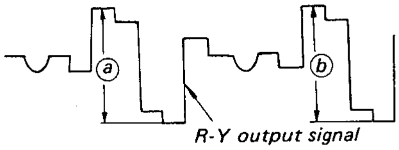


Fig. 4-5. Pincushion correction

4-9. COLOUR CIRCUIT ADJUSTMENTS

Note: These adjustments should be made in order if malfunctions related to colour circuits occur.
Major malfunctions are as follows:

1. No colour.
2. COLOUR control cannot produce sufficient saturation.
3. HUE control cannot produce correct flesh tones.

ITEM	*PREPARATION*	*ADJUST*	*PROCEDURE*
ACC Adjustment	1. Set AFT switch to "ON". 2. Receive the colour-bar signal from a colour-bar generator. 3. Connect an oscilloscope to the emitter of Q326 as shown in Fig. 4-6.	VR303 (ACC) (on C board, See Fig. 4-6)	1. Adjust VR303 for 0.8 Vp-p at the emitter of Q326.  *0.8 Vp-p*
BAT and Band-pass Amp Adjustment	1. Set AFT switch to "ON". 2. Receive the colour-bar signal from a colour-bar generator. 3. Set the COLOUR and PICTURE controls to midrange and the HUE control to optimum position. 4. Connect an oscilloscope to the emitter of Q326 as shown in Fig. 4-6.	T303 (BAT) VR303 (ACC) (on C board, See Fig. 4-6)	1. Check for 0.8 Vp-p at the emitter of Q326. Adjust VR303 if necessary. 2. Adjust T303 (BAT) to make the ripples in the waveform minimum as shown. 
Demodulator Phase Adjustment	1. Set AFT switch to "ON". 2. Receive the colour-bar signal from a colour-bar generator. 3. Connect an oscilloscope to the base of Q155 as shown in Fig. 4-6.	VR301 (DMP) (on C board, See Fig. 4-6)	1. Adjust VR301 to obtain the maximum B-Y output marked ⓐ as shown. 
V-AXIS SWITCHING Adjustment	1. Set AFT switch to "ON". 2. Receive the colour-bar signal from a colour-bar generator. 3. Connect an oscilloscope to the base of Q157 as shown in Fig. 4-6.	VR305 (VSB) (on C board, See Fig. 4-6)	1. Adjust VR305 to obtain an R-Y output level ⓑ equal to the output level obtained in ⓐ as shown. 

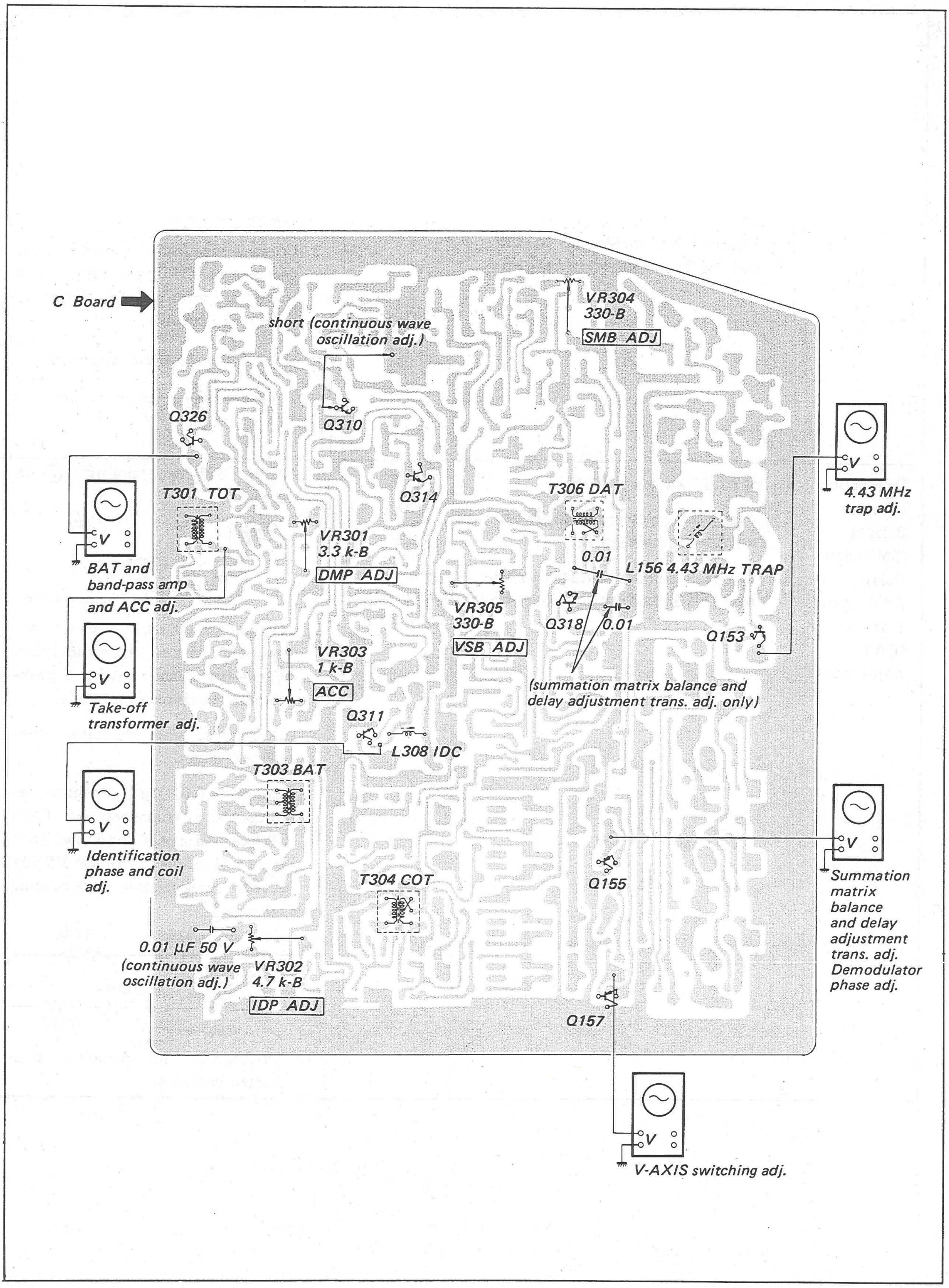
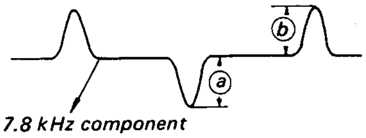
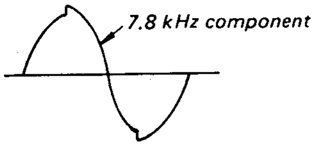
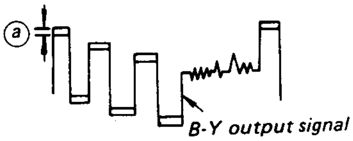
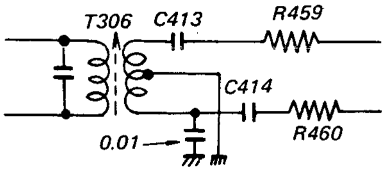
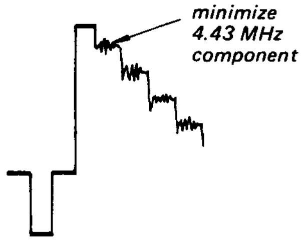

C Board
short (continuous wave
oscillation adj.)
VR304
330-B
SMB ADJ
Q326
Q310
Q314
T301 TOT
T306 DAT
VR301
3.3 k-B
DMP ADJ
0.01
L156 4.43 MHz TRAP
4.43 MHz
trap adj.
V
BAT and
band-pass amp
and ACC adj.
VR305
330-B
VSB ADJ
Q318
0.01
Q153
VR303
1 k-B
ACC
(summation matrix balance and
delay adjustment trans. adj. only)
Take-off
transformer adj.
Q311
L308 IDC
T303 BAT
Identification
phase and coil
adj.
Summation
matrix
balance
and delay
adjustment
trans. adj.
Demodulator
phase adj.
Q155
T304 COT
0.01 μF 50 V
(continuous wave
oscillation adj.)
VR302
4.7 k-B
IDP ADJ
Q157
V-AXIS switching adj.

Fig. 4-6. Adjustment setup and parts location

ITEM	*PREPARATION*	*ADJUST*	*PROCEDURE*
Identification Phase and Coil Adjustments	1. Set AFT switch to "ON". 2. Check for Demodulator Phase adjustment VR301 (DMP) is already completed. 3. Receive the colour-bar signal from a colour-bar generator. 4. Connect an oscilloscope to the base of Q311 as shown in Fig. 4-6.	VR302 (IDP) L308 (IDC) (on C board, See Fig. 4-6)	1. Adjust VR302 to obtain equal 7.8 kHz component levels in ⓐ and ⓑ as shown.  2. Connect an oscilloscope to the collector of Q311 and adjust L308 to obtain maximum7.8 kHz components as shown. 
Summation Matrix Balance (SMB) and Delay Adjustment Transformer (DAT) Adjustments	1. Set AFT switch to "ON". 2. Receive the colour-bar signal from a colour-bar generator. 3. Connect an oscilloscope to the base of Q155 as shown in Fig. 4-6.	VR304 (SMB) T306 (DAT) (on C board, See Fig. 4-6)	1. Adjust T306 to minimize ⓐ as shown.  2. Connect a 0.01 μF capacitor between Q318 base and ground, See Fig. 4-6 and then record a peak-to-peak reading on the scope. 3. Disconnect the capacitor connected in step 2. 4. Connect a 0.01 μF capacitor between the secondary of T306 (DAT) and ground as shown (See Fig. 4-6), and then adjust VR304 for the same peak-to-peak reading as in step 2.  5. Disconnect the capacitor connected in step 4.

ITEM	*PREPARATION*	*ADJUST*	*PROCEDURE*
Continuous Wave Oscillation Adjustment	1. Set AFT switch to "ON". 2. Receive the colour-bar signal from a colour-bar generator. 3. Short the base of Q310 to ground. 4. Add a ceramic capacitor (0.01 μF/50 V) between the connection point of C331 and VR302 and ground. (See Fig. 4-6).	T304 (COT) (on C board, See Fig. 4-6)	1. Adjust T304 to synchronize the colour picture.
Take-off Transformer Adjustment	1. Set AFT switch to "ON". 2. Receive the colour-bar signal from a colour-bar generator. 3. Connect an oscilloscope to the secondary of TOT as shown in Fig. 4-6.	T301 (TOT) (on C board, See Fig. 4-6)	1. Adjust T301 to obtain maximum 4.43 MHz components.
4.43 MHz Trap Adjustment	1. Set AFT switch to "ON". 2. Receive the colour-bar signal from a colour-bar generator. 3. Connect an oscilloscope to the emitter of Q153 as shown in Fig. 4-6.	L156 (4.43 MHz Trap) (on C board, See Fig. 4-6)	1. Adjust L156 to minimize 4.43 MHz components as shown. 

MEMO

SECTION 5

REPACKING

The original shipping carton and packing materials are the ideal container for shipping the unit. However to secure the maximum protection, the set must be repacked in these materials precisely as before. The proper repacking procedures are shown in Figures 5-1 and 5-2.

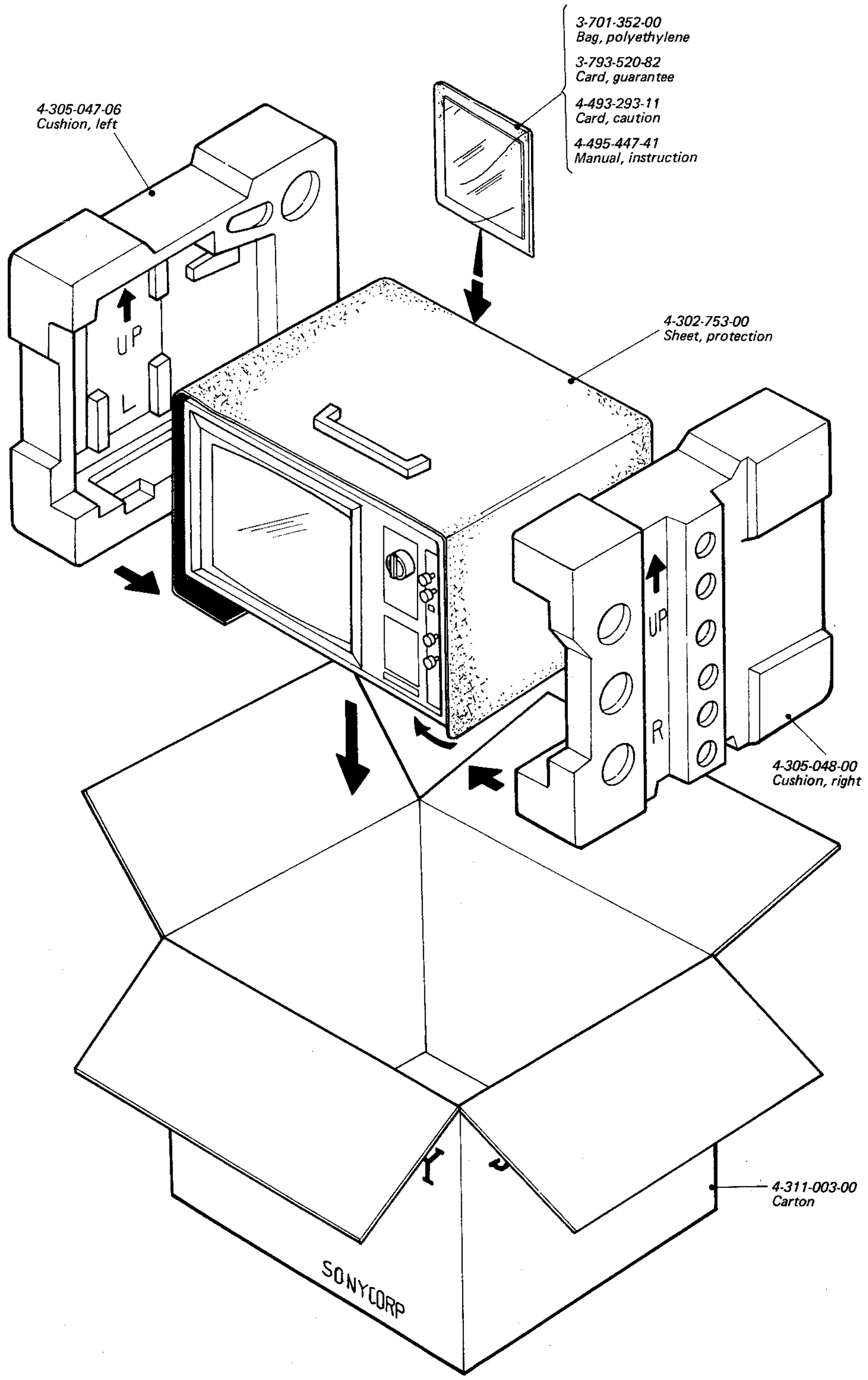

3-701-352-00
Bag, polyethylene
3-793-520-82
Card, guarantee
4-493-293-11
Card, caution
4-495-447-41
Manual, instruction
4-305-047-06
Cushion, left
UP
L
4-302-753-00
Sheet, protection
UP
R
4-305-048-00
Cushion, right
4-311-003-00
Carton
SONYCORP

Fig. 5-1. Repacking (KV-1310UB only)

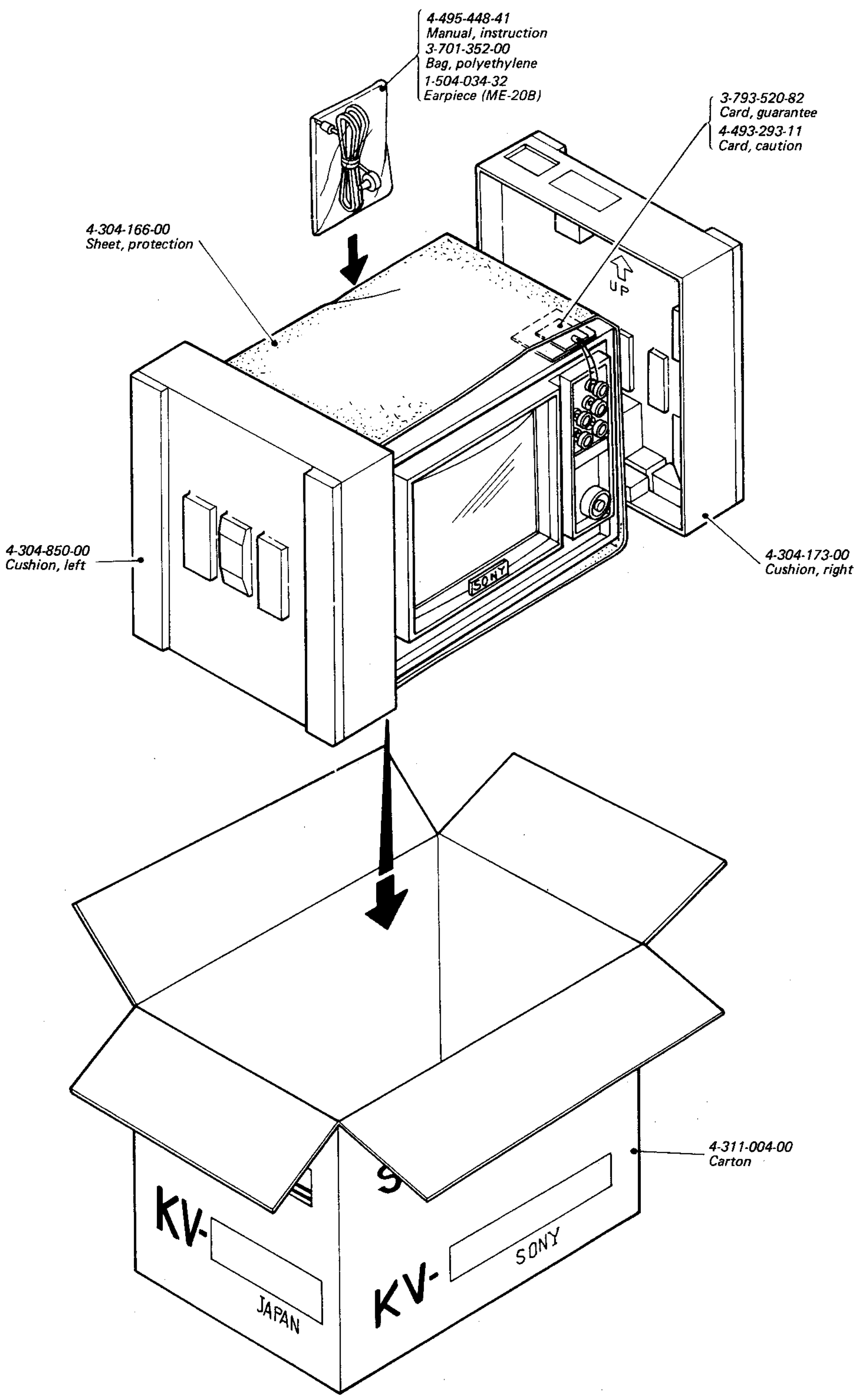

4-495-448-41
Manual, instruction
3-701-352-00
Bag, polyethylene
1-504-034-32
Earpiece (ME-20B)
3-793-520-82
Card, guarantee
4-493-293-11
Card, caution
4-304-166-00
Sheet, protection
UP
SONY
4-304-850-00
Cushion, left
4-304-173-00
Cushion, right
4-311-004-00
Carton
KV-
JAPAN
KV-
SONY

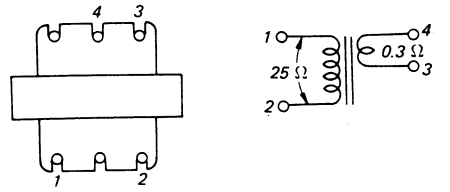
Fig. 5-2. Repacking (KV-1330UB only)

SECTION 6

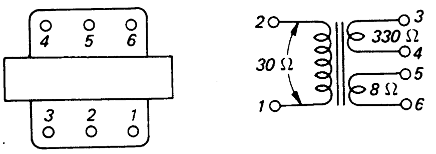
DIAGRAMS

6-1. DC RESISTANCE AND WINDING DIAGRAMS OF COILS AND TRANSFORMERS

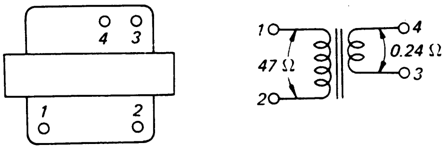
CDT (T603)


4
3
1
2
1
25 Ω
2
4
0.3 Ω
3

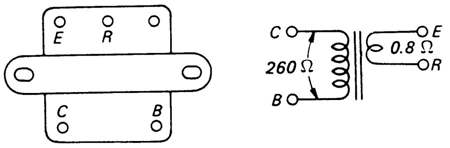
VBT (T503)


4
5
6
3
2
1
2
30 Ω
1
3
330 Ω
4
5
8 Ω
6

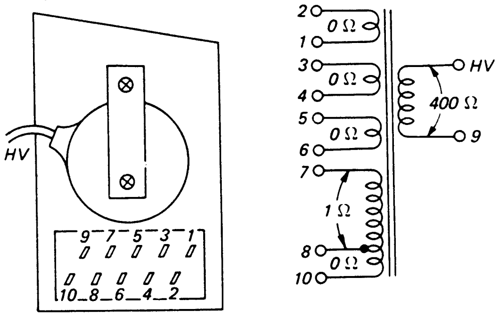
HDT (T501)


4
3
1
2
1
47 Ω
2
4
0.24 Ω
3

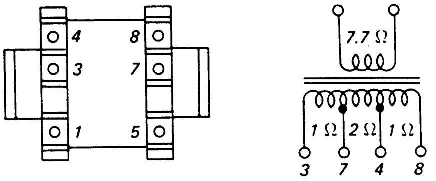
SOT (T901)


E
R
C
B
C
260 Ω
B
E
0.8 Ω
R

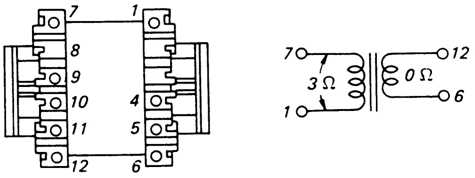
FBT (T801)


HV
9 7 5 3 1
10 8 6 4 2
2
0 Ω
1
3
0 Ω
4
5
0 Ω
6
7
1 Ω
8
0 Ω
10
HV
400 Ω
9

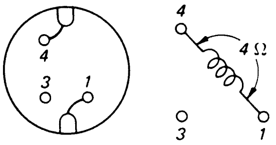
HOT (T502)


4
3
1
8
7
5
1
5
7.7 Ω
1 Ω
2 Ω
1 Ω
3
7
4
8

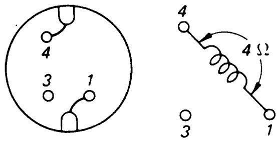
CCH (T602)


7
8
9
10
11
12
1
4
5
6
7
3 Ω
1
12
0 Ω
6

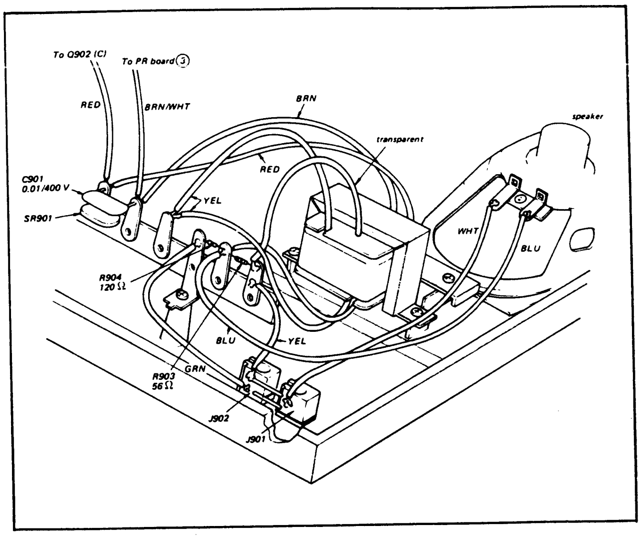
DCC (L502)



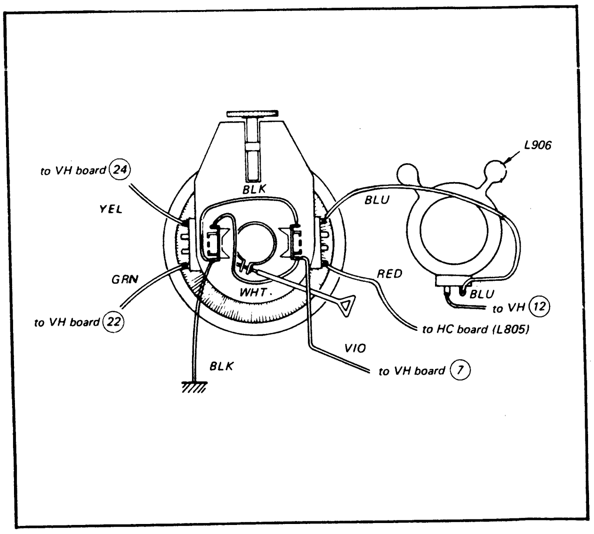
HCC (L503)



6-2. WIRING DIAGRAMS OF SOT AND DEFLECTION YOKE


To Q902 (C)
To PR board ③
RED
BRN/WHT
BRN
speaker
transparent
RED
C901
0.01/400 V
SR901
YEL
WHT
BLU
R904
120 Ω
BLU
YEL
GRN
R903
56 Ω
J902
J901

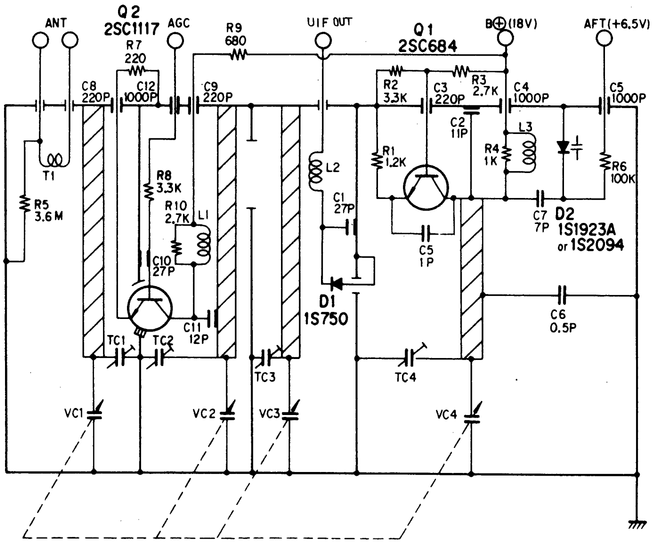
SOT Wiring (KV-1330UB only)


to VH board ㉔
YEL
BLK
BLU
L906
GRN
WHT
RED
BLU
to VH ⑫
to HC board (L805)
to VH board ㉒
VIO
BLK
to VH board ⑦

DY wiring

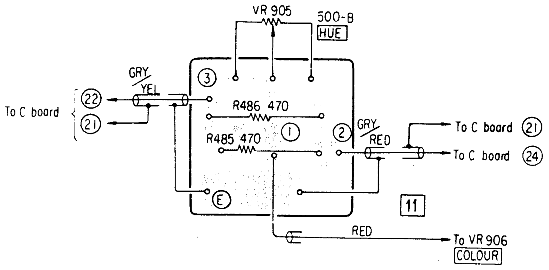
6-3. SCHEMATIC DIAGRAM

– UHF tuner (BT-123) –


ANT
Q2
2SC1117
AGC
R7
220
C12
1000P
C8
220P
C9
220P
R9
680
UHF OUT
Q1
2SC684
B⊕(18V)
AFT(+6.5V)
R2
3.3K
R3
2.7K
C3
220P
C4
1000P
C5
1000P
C2
11P
L3
R4
1K
R6
100K
T1
R5
3.6M
R8
3.3K
R10
2.7K
L1
C10
27P
C11
12P
L2
C1
27P
R1
1.2K
C5
1P
C7
7P
D2
1S1923A
or 1S2094
D1
1S750
C6
0.5P
TC1
TC2
TC3
TC4
VC1
VC2
VC3
VC4

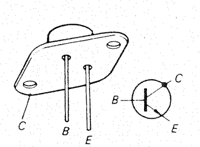
6-4. MOUNTING DIAGRAM

– VR Board –

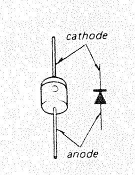

VR 905
500-B
HUE
GRY
YEL
To C board
㉒
㉑
③
R486 470
R485 470
①
②
GRY
RED
To C board ㉑
To C board ㉔
Ⓔ
11
RED
To VR 906
COLOUR

6-5. MOUNTING DIAGRAMS – HC and T Boards –

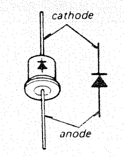
– HC Board –



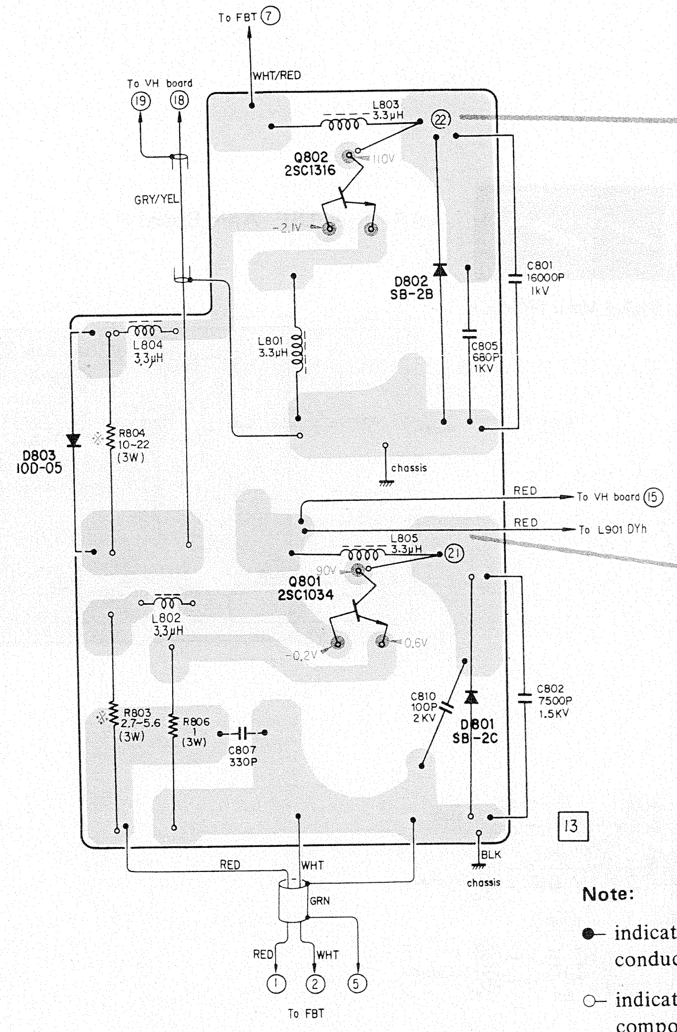
2SC1310
2SC1034

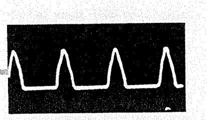

cathode
anode

SB-2C,
SB-2B

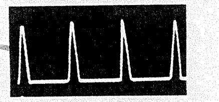

cathode
anode

10D-05


To FBT ⑦
WHT/RED
To VH board
⑲ ⑱
GRY/YEL
L803 3.3μH
㉒
Q802 2SC1316
110V
-2.1V
D802 SB-2B
C801 16000P 1kV
L801 3.3μH
C805 680P 1KV
L804 3.3μH
D803 10D-05
R804 10-22 (3W)
chassis
RED To VH board ⑮
RED To L901 DYh
L805 3.3μH
㉑
90V
Q801 2SC1034
L802 3.3μH
-0.2V
0.6V
C810 100P 2KV
D801 SB-2C
C802 7500P 1.5KV
R803 2.7-5.6 (3W)
R806 1 (3W)
C807 330P
13
RED
WHT
BLK
chassis
GRN
RED
WHT
① ② ⑤
To FBT



㉒ 500 Vp-p (Horiz.)

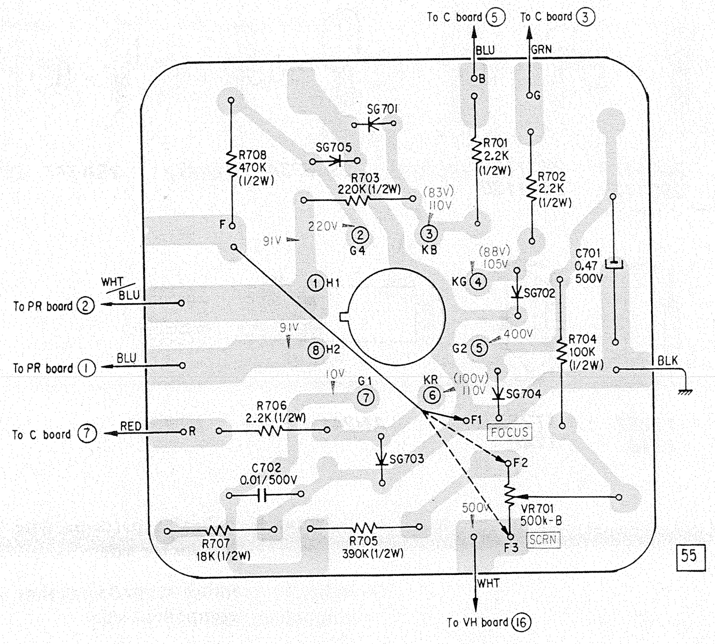


㉑ 820 Vp-p (Horiz.)

Note:

- ●– indicates parts or wire connection point on the conductor side.
- ○– indicates parts or wire connection point on the component side.
- ※ indicates values to be selected.

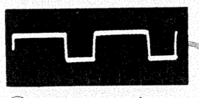
– T Board –


To C board ⑤
To C board ③
BLU
GRN
B
G
SG701
SG705
R708 470K (1/2W)
R703 220K(1/2W)
(83V) 110V
R701 2.2K (1/2W)
R702 2.2K (1/2W)
220V
② G4
③ KB
F
91V
(88V) 105V
C701 0.47 500V
① H1
KG ④
SG702
WHT
BLU
To PR board ②
9lV
⑧ H2
400V
G2 ⑤
R704 100K (1/2W)
BLU
To PR board ①
10V
G1 ⑦
KR ⑥
(100V) 110V
SG704
BLK
R706 2.2K (1/2W)
To C board ⑦
RED
R
F1
FOCUS
C702 0.01/500V
SG703
F2
500V
VR701 500k-B
F3
SCRN
R707 18K (1/2W)
R705 390K (1/2W)
55
WHT
To VH board ⑯

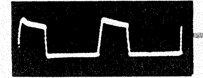
( ) No signal in.

6-6. MOUNTING DIAGRAM

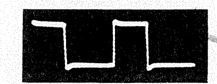
– PR Board –



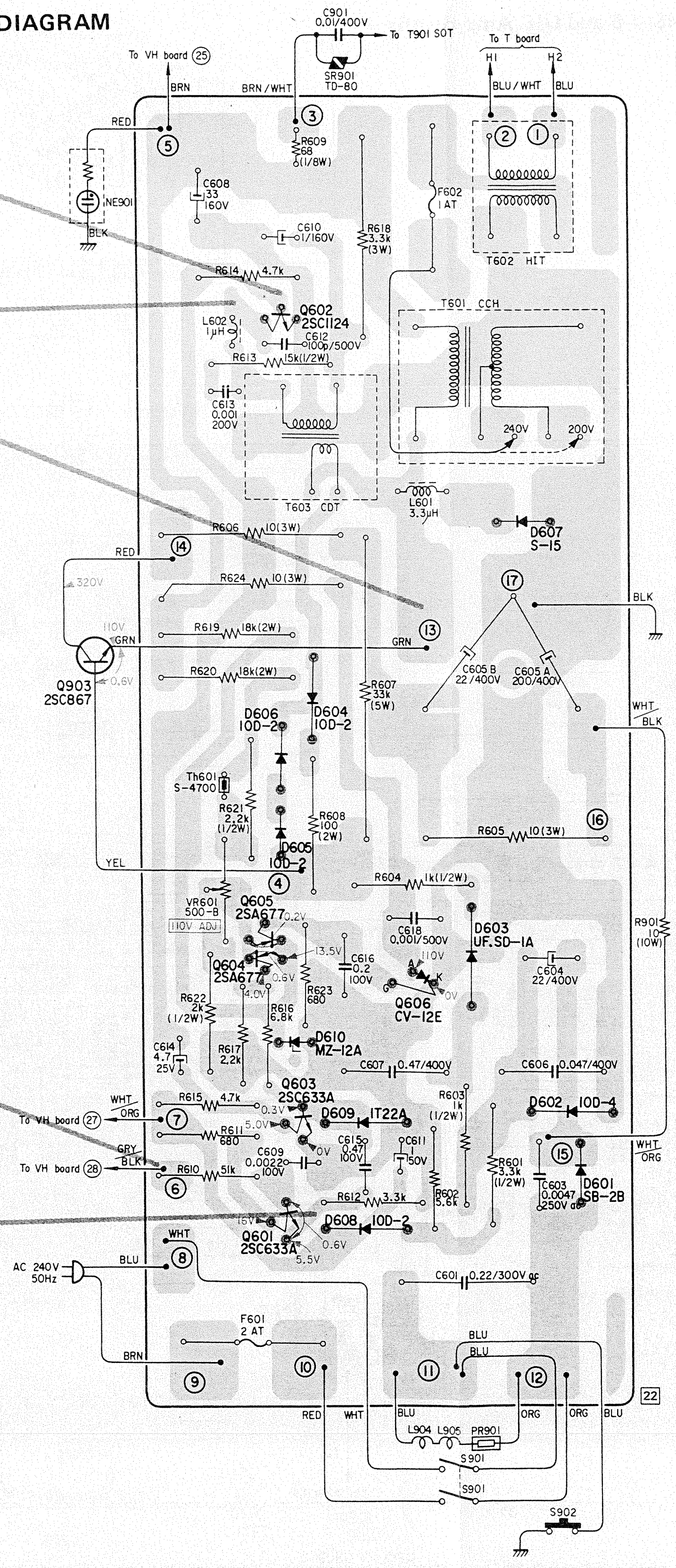
④ 7.0 Vp-p (Horiz.)

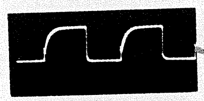


③ 150 Vp-p (Horiz.)

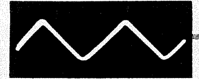


⑤ 300 Vp-p (Horiz.)

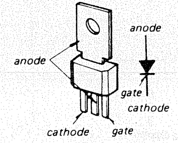

C901 0.01/400V
To T901 SOT
SR901 TD-80
To T board
H1 H2
To VH board ㉕
BRN
BRN/WHT
BLU/WHT
BLU
RED
⑤
③
R609 68 (1/8W)
② ①
NE901
BLK
C608 33 160V
C610 0.01/160V
R618 3.3k (3W)
F602 1AT
T602 HIT
R614 4.7k
Q602 2SC1124
L602 1μH
C612 100p/500V
R613 15k(1/2W)
T501 CCH
C613 0.001 200V
240V
200V
T603 CDT
L601 3.3μH
R606 10(3W)
D607 S-15
RED
⑭
320V
R624 10(3W)
⑰
BLK
110V
GRN
R619 18k(2W)
GRN
⑬
Q903 2SC867
0.6V
R620 18k(2W)
R607 33k (5W)
C605B 22/400V
C605A 200/400V
WHT BLK
D606 10D-2
D604 10D-2
Th601 S-4700
R621 2.2k (1/2W)
R608 100 (2W)
R605 10(3W)
⑯
D605 10D-2
YEL
④
R604 1k(1/2W)
VR601 500-B
110V ADJ
Q605 2SA677
C618 0.001/500V
D603 UF.SD-1A
R901 10 (10W)
Q604 2SA677
13.5V
C616 0.2 100V
110V
C604 22/400V
R622 2k (1/2W)
R623 680
Q606 CV-12E
R616 6.8k
D610 MZ-12A
C614 4.7 25V
R617 2.2k
C607 0.47/400V
C606 0.047/400V
Q603 2SC633A
WHT ORG
R615 4.7k
D609 1T22A
R603 1k (1/2W)
D602 10D-4
To VH board ㉗
⑦
R611 680
C615 0.47 100V
C611 50V
⑮
WHT ORG
GRY BLK
C609 0.0022 100V
R601 3.3k (1/2W)
C603 0.0047 250V
D601 SB-2B
To VH board ㉘
R610 51k
⑥
R612 3.3k
R602 5.6k
WHT
D608 10D-2
Q601 2SC633A
0.6V
5.5V
AC 240V 50Hz
BLU
⑧
C601 0.22/300V
F601 2AT
BLU
BLU
BRN
⑨
⑩
⑪
⑫
22
RED
WHT
BLU
L904
L905
PR901
ORG
ORG
BLU
S901
S901
S902



㊵ 10 Vp-p (Horiz.)



② 1.0 Vp-p (Horiz.)

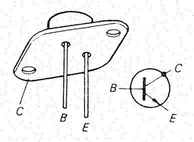

anode
anode
gate
cathode
cathode
gate

CV-12E

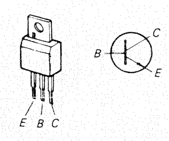
Note: ●– indicates parts or wire connection point on the conductor side.

○– indicates parts or wire connection point on the component side.

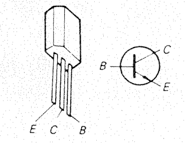
Q	D	VR
Q602		
	D607	
Q903	D604	
	D606	
	D605	
		VR601
Q605 Q604 Q606	D603	
	D610	
Q603	D602 D609	
	D601	
Q601	D608	



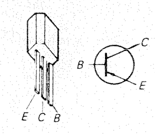
2SC867



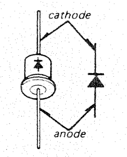
2SC1124



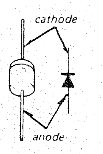
2SC633A
2SC926A



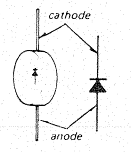
2SA677


cathode
anode

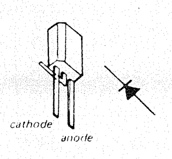
SB-2B,
S-15


cathode
anode

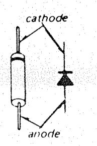
10D-2
10D-4


cathode
anode

UF.SD-1A


cathode
anode

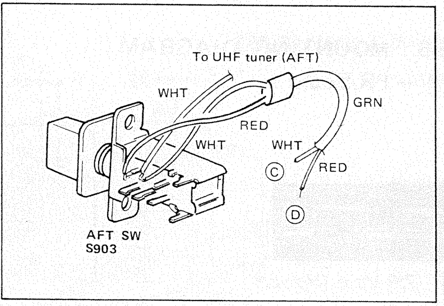
MZ12A


cathode
anode

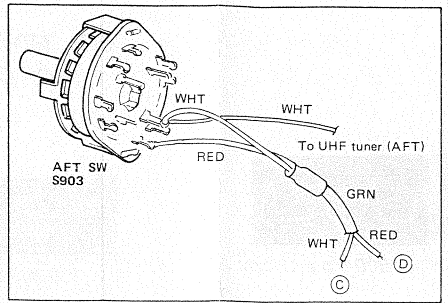
1T22A

6-7. MOUNTING DIAGRAMS – S and UIF Amp Boards –

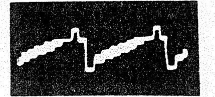
– S Board –


To UHF tuner (AFT)
WHT
GRN
RED
WHT
WHT
RED
Ⓒ
Ⓓ
AFT SW
S903

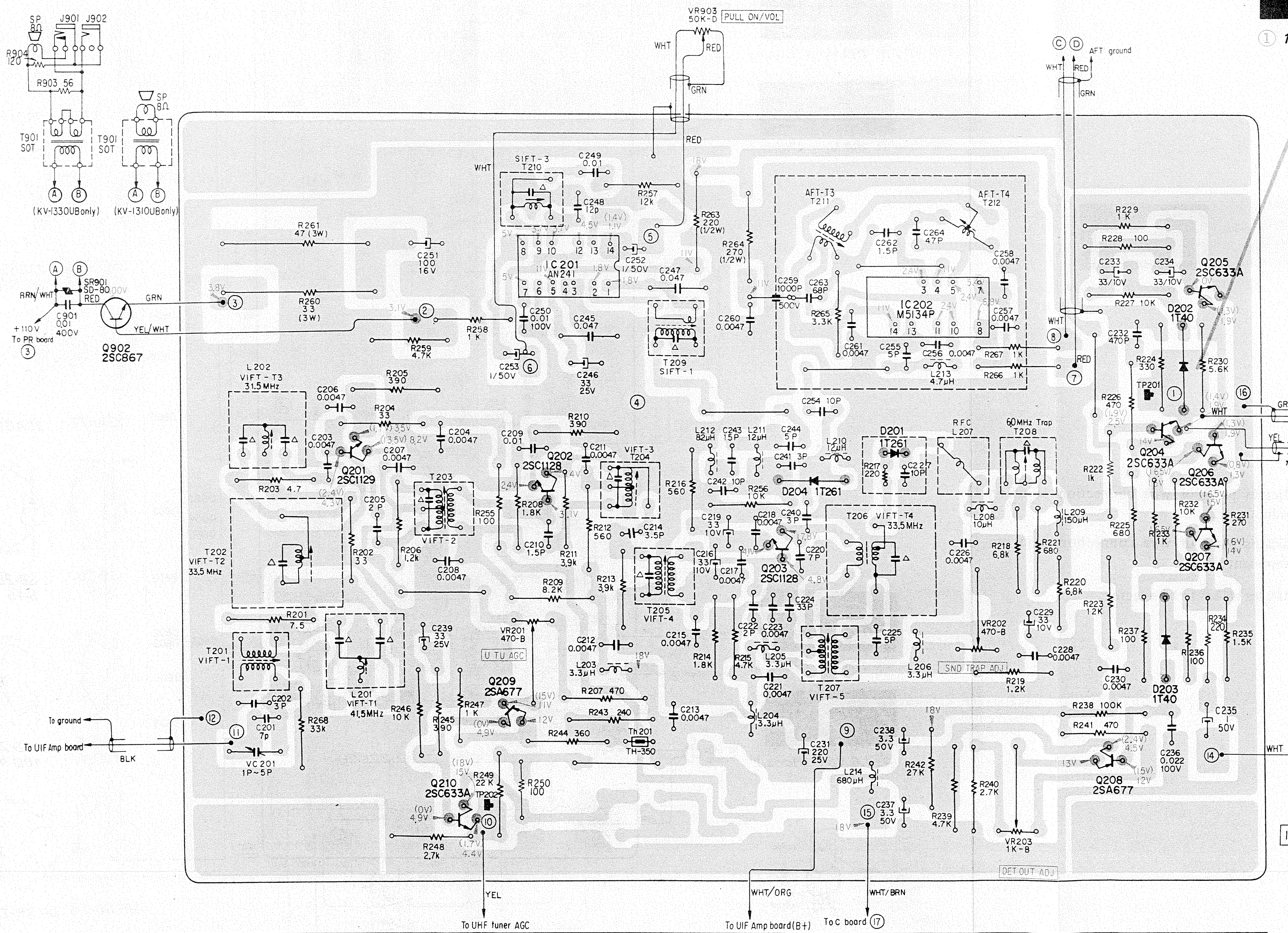
KV-1310UB only


WHT
WHT
To UHF tuner (AFT)
RED
AFT SW
S903
GRN
RED
WHT
Ⓓ
Ⓒ

KV-1330UB only

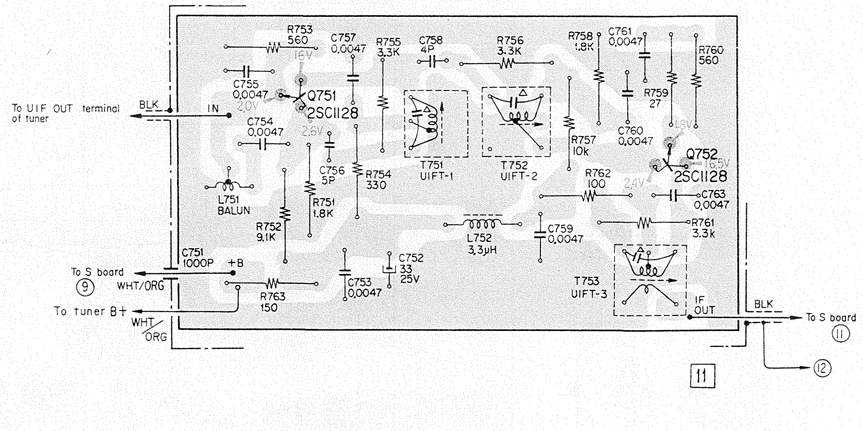


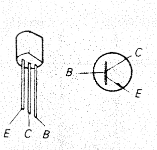
① 1.4 Vp-p (Horiz.)


VR903
50K-D
PULL ON/VOL
SP 8Ω
J901 J902
R904 120
R903 56
T901 SOT
T901 SOT
SP 8Ω
(KV-1330UBonly)
(KV-1310UBonly)
R261 47 (3W)
C251 100 16V
SR901 SD-80
C901 .001 400V
+110V To PR board
Q902 2SC867
R260 33 (3W)
YEL/WHT
R259 4.7K
R258 1K
SIFT-3 T210
C249 0.01
C248 12P
R257 12k
R263 220 (1/2W)
R264 270 (1/2W)
IC201 AN241
C252 1/50V
C247 0.047
C250 0.01 100V
C245 0.047
C253 1/50V
C246 33 25V
T209 SIFT-1
AFT-T3 T211
AFT-T4 T212
C262 1.5P
C264 47P
C258 0.0047
C259 1000P 50CV
C263 68P
R265 3.3K
C260 0.0047
IC202 M5134P
C257 0.0047
C261 0.0047
C255 5P
C256 0.0047
R267 1K
R266 1K
L213 4.7μH
R229 1K
R228 100
C233 33/10V
C234 33/10V
Q205 2SC633A
R227 10K
D202 1T40
C232 470P
R224 330
R230 5.6K
TP201
R226 470
L202 VIFT-T3 31.5MHz
C206 0.0047
R205 390
R204 33
C203 0.0047
C204 0.0047
Q201 2SC1129
C207 0.0047
R203 4.7
C205 2P
T203
R255 100
R208 1.8K
R202 33
R206 1.2k
C208 0.0047
T202 VIFT-T2 33.5MHz
C209 0.01
R210 390
Q202 2SC1128
C211 0.0047
VIFT-3 T204
R216 560
R212 560
C214 3.5P
C210 1.5P
R211 3.9k
R213 3.9k
R209 8.2K
C254 10P
L212 82μH
C243 15P
L211 12μH
C244 5P
C241 3P
C242 10P
R256 10K
L210 12μH
D201 1T261
D204 1T261
R217 220
C227 10P
RFC L207
60MHz Trap T208
T206 VIFT-4 33.5MHz
C219 33 10V
C218 0.0047
C240 3P
L208 10μH
C220 7P
C216 33 10V
C217 0.0047
Q203 2SC1128
C224 33P
C226 0.0047
R218 6.8k
R221 680
L209 150μH
R222 1K
Q204 2SC633A
Q206 2SC633A
R232 10K
R231 270
R225 680
R233 1K
Q207 2SC633A
R220 6.8k
R223 12K
VR901C 1K-B
PICTURE
GRY
WHT
YEL
ORG
BLU
To C board
R201 7.5
T201 VIFT-1
L201 VIFT-T1 41.5MHz
C239 33 25V
VR201 470-B
U TU AGC
C212 0.0047
C215 0.0047
T205 VIFT-4
R214 1.8K
R215 4.7K
L205 3.3μH
C222 2P
C223 0.0047
C225 5P
T207 VIFT-5
L206 3.3μH
SND TRAP ADJ
VR202 470-B
C229 33 10V
C228 0.0047
R219 1.2K
R237 100
R236 100
R234 220
R235 1.5K
C230 0.0047
D203 1T40
L203 3.3μH
Q209 2SA677
R207 470
R243 240
R244 360
Th201 TH-350
C213 0.0047
C221 0.0047
L204 3.3μH
C202 3P
R268 33K
R246 10K
R245 390
R247 1K
C201 7p
VC201 1P-5P
To ground
To UIF Amp board
BLK
Q210 2SC633A
TP202
R249 22K
R250 100
R248 2.7k
C231 220 25V
L214 680μH
C238 3.3 50V
R242 27K
R240 2.7K
C237 3.3 50V
R239 4.7K
VR203 1K-B
DET OUT ADJ
R238 100K
R241 470
Q208 2SA677
C235 50V
C236 0.022 100V
To C board ㉛
YEL
To UHF tuner AGC
WHT/ORG
To UIF Amp board(B+)
WHT/BRN
To C board ⑰
AFT ground
14

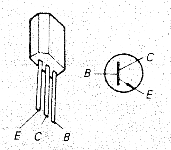
Q & IC	Q201 Q210 Q209 IC201 Q202 Q203 IC202 Q208 Q204 Q205 Q206 Q207
D	D204 D201 D203
ADJ	SIF-3 VR201 SIFT-1 AFT-T3 VR202 AFT-T4 T208 VR203

– UIF Amp Board –

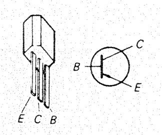

R753 560
C757 0.0047
R755 3.3K
C758 4P
R756 3.3K
R758 1.8K
C761 0.0047
R760 560
To UIF OUT terminal of tuner
BLK
IN
C755 0.0047
Q751 2SC1128
C754 0.0047
R759 27
T751 UIFT-1
T752 UIFT-2
R757 10K
C760 0.0047
Q752 2SC1128
C756 5P
R754 330
R751 1.8K
L751 BALUN
R762 100
C763 0.0047
R752 9.1K
L752 3.3μH
C759 0.0047
R761 3.3K
To S board ⑨
WHT/ORG
To tuner B+
C751 1000P
C753 0.0047
C752 33 25V
R763 150
T753 UIFT-3
IF OUT
BLK
To S board ⑪
⑫
11



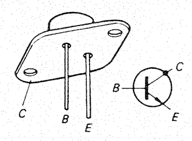
2SC1128
2SC1129



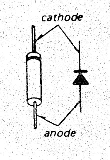
2SC633A



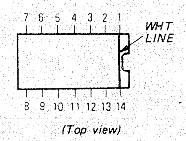
2SA677



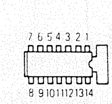
2SC867


cathode
anode

1T267
1T40


7 6 5 4 3 2 1
WHT LINE
8 9 10 11 12 13 14
(Top view)

AN241


7 6 5 4 3 2 1
8 9 10 11 12 13 14

M5134P

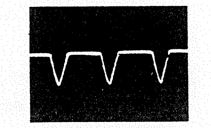
Note: ●– indicates parts or wire connection point on the conductor side.

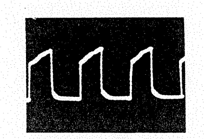
○– indicates parts or wire connection point on the component side.

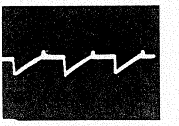
( ) No signal in.

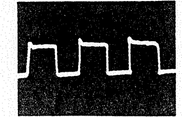
6-8. MOUNTING DIAGRAM

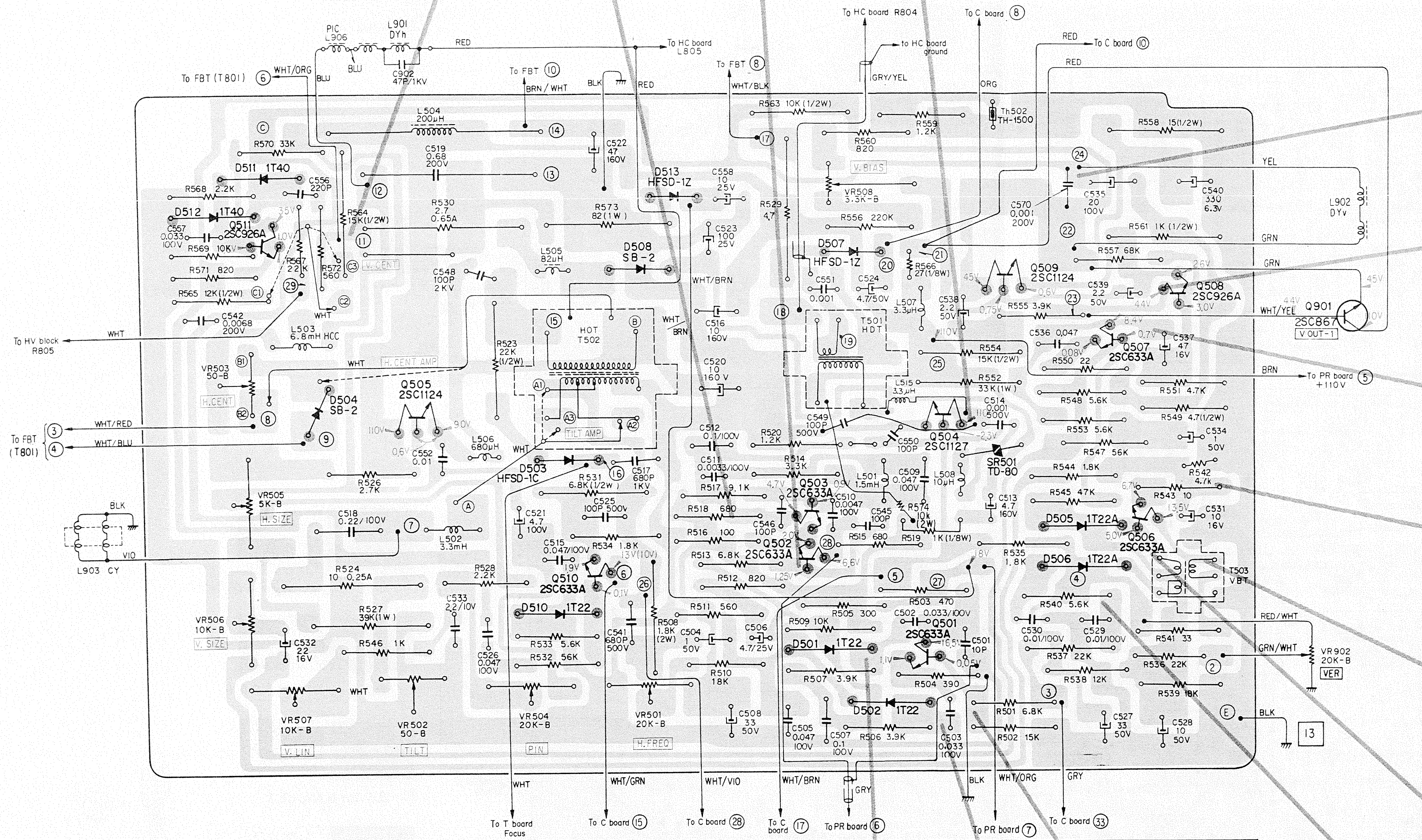
– VH Board –

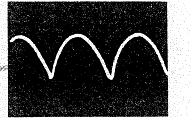

⑳ 120 Vp-p (Horiz.)

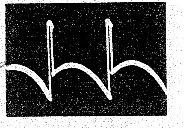

⑩ 6.0 Vp-p (Horiz.)

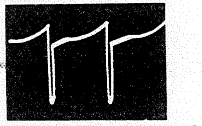

⑨ 6.0 Vp-p (Horiz.)

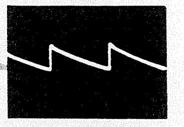

⑪ 200 Vp-p (Horiz.)

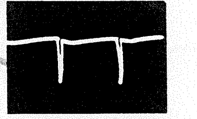

PIC
L906
L901
DYh
BLU
RED
C902 47P/1KV
To HC board L805
To FBT (T801) ⑥
WHT/ORG
To FBT ⑩
BRN/WHT
BLK
To FBT ⑧
WHT/BLK
To HC board R804
to HC board ground
GRY/YEL
To C board ⑧
ORG
To C board ⑩
L504 200μH
⑭
C522 47 160V
R570 33K
C519 0.68 200V
⑬
D511 1T40
C556 220P
R568 2.2K
⑫
R530 2.7 0.65A
R573 82(1W)
D513 HFSD-1Z
C558 10 25V
R529 4.7
D512 1T40
Q511 2SC926A
R564 15K(1/2W)
⑪
C557 0.033 100V
R569 10K
R567 22K
R572 560
H.CENT
C523 100 25V
L505 82μH
D508 SB-2
R571 820
C548 100P 2KV
R565 12K(1/2W)
㉙
C542 0.0068 200V
L503 6.8mH HCC
To HV block R805
WHT
VR503 50-B
H.CENT AMP
R523 22K (1/2W)
⑮
HOT T502
TILT AMP
Q505 2SC1124
D504 SB-2
To FBT (T801) ③ ④
WHT/RED
WHT/BLU
C552 0.01
L506 680μH
D503 HFSD-1C
R531 6.8K(1/2W)
C517 680P 1KV
⑯
VR505 5K-B
H.SIZE
VIO
L903 CY
R526 2.7K
C518 0.22/100V
⑦
L502 3.3mH
C521 4.7 100V
C525 100P 500V
C515 0.047/100V
R534 1.8K
Q510 2SC633A
R524 10 0.25A
R528 2.2K
C533 22/10V
D510 1T22
R527 39K(1W)
VR506 10K-B
V.SIZE
C532 22 16V
R546 1K
C526 0.047 100V
C541 680P 500V
R508 1.8K (2W)
C504 1 50V
VR507 10K-B
V.LIN
VR502 50-B
TILT
VR504 20K-B
PIN
VR501 20K-B
H.FREQ
R510 18K
C508 33 50V
To T board Focus
To C board ⑮
To C board ㉘
To C board ⑰
To PR board ⑥
WHT/GRN
WHT/VIO
WHT/BRN
GRY
To PR board ⑦
To C board ㉝
R563 10K(1/2W)
R559 1.2K
R560 820
Th502 TH-1500
R558 15(1/2W)
V.BIAS
VR508 3.3K-B
R556 220K
㉔
C570 0.001 200V
C535 20 100V
C540 330 6.3V
L902 DYv
YEL
R561 1K(1/2W)
D507 HFSD-1Z
㉑
R566 27(1/8W)
Q509 2SC1124
C539 2.2 50V
Q508 2SC926A
Q901 2SC867
V.OUT-1
WHT/YEL
GRN
C551 0.001
C524 4.7/50V
L507 3.3μH
R555 3.9K
㉓
T501 HDT
⑲
㉕
C536 0.047
R554 15K(1/2W)
R550 22
Q507 2SC633A
C537 47 16V
BRN
To PR board ⑤ +110V
C516 10 160V
C520 10 160V
L515 3.3μH
R552 33K(1W)
C514 0.001 500V
R551 4.7K
R548 5.6K
R549 4.7(1/2W)
C549 100P 500V
C550 100P
Q504 2SC1127
R553 5.6K
C534 1 50V
C512 0.1/100V
R520 1.2K
R547 56K
C511 0.0033/100V
R514 3.3K
SR501 TD-80
R544 1.8K
R542 4.7K
R517 9.1K
Q503 2SC633A
L501 1.5mH
C509 0.047 100V
L508 10μH
C513 4.7 160V
R545 47K
R543 10
C531 10 16V
R518 680
C510 0.0047 100V
C545 100P
R574 10 1/2W
D505 1T22A
Q506 2SC633A
R516 100
C546 100P
R515 680
R519 1K(1/8W)
R513 6.8K
Q502 2SC633A
㉘
R535 1.8K
D506 1T22A
T503 VBT
R512 820
㉗
R503 470
R511 560
R505 300
C502 0.033/100V
R540 5.6K
R509 10K
Q501 2SC633A
C501 10P
C530 0.01/100V
C529 0.01/100V
D501 1T22
R537 22K
R541 33
RED/WHT
GRN/WHT
VR902 20K-B
VER
C506 4.7/25V
R507 3.9K
R504 390
R536 22K
R538 12K
R539 18K
D502 1T22
R501 6.8K
R502 15K
C505 0.047 100V
C507 0.1 100V
R506 3.9K
C503 0.033 100V
C527 33 50V
C528 10 50V
13

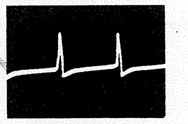

⑱ 30 Vp-p (Vert.)

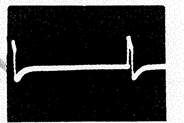

⑰ 110 Vp-p (Vert.)


⑯ 13 Vp-p (Vert.)

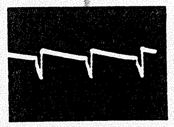

⑮ 3.8 Vp-p (Vert.)

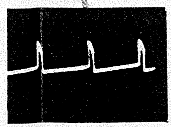

⑬ 6.2 Vp-p (Vert.)

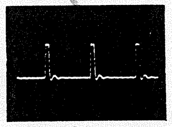

⑭ 6.1 Vp-p (Vert.)

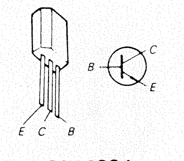

⑫ 6.0 Vp-p (Vert.)

Q	Q511 Q505 Q510 Q503 Q502 Q504 Q501 Q509 Q507 Q506 Q508
D	D512 D511 D504 D503 D508 D513 D507 D501 D502 D505 D506
ADJ	VR503 VR505 VR506 VR507 VR502 VR504 VR501 VR508

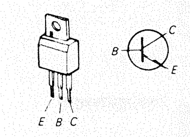

⑦ 10 Vp-p (Hori.)


⑧ 11 Vp-p (Horiz.)

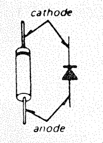

⑥ 11 Vp-p (Horiz.)

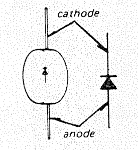


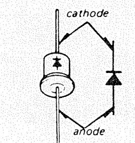
2SC633A
2SC926A



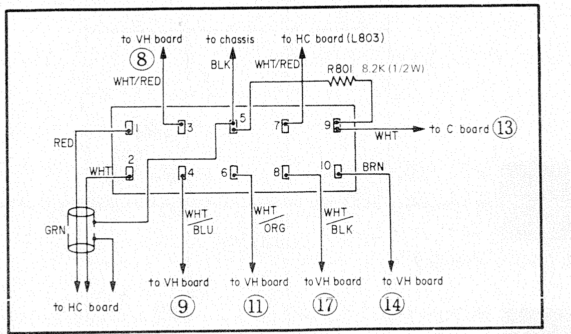
2SC1127
2SC1124


cathode
anode
1T22
1T22A
1T40


cathode
anode
HF.SD-1C
HF.SD-1Z


cathode
anode
SB-2

FBT WIRING


to VH board ⑧
to chassis
to HC board (L803)
BLK
WHT/RED
R801 8.2K(1/2W)
RED
WHT
1
2
3
4
5
6
7
8
9
10
BRN
to C board ⑬
GRN
WHT/BLU
WHT/ORG
WHT/BLK
to HC board
to VH board ⑨
to VH board ⑪
to VH board ⑰
to VH board ⑭

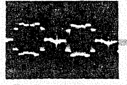
Note: ●– indicates parts or wire connection point on the conductor side.

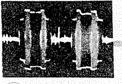
○– indicates parts or wire connection point on the component side.

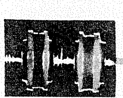
( ) No signal in.

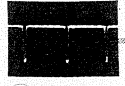
6-9. MOUNTING DIAGRAM
— C Board —

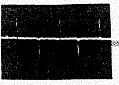
ADJ	D	Q
VR304 T305		Q303 Q317 Q316 Q151
	D303 D304	
		Q304
	D302 D304	Q310
		Q326
T302 T306 T301 L156	D309 D310	Q315 Q314
		Q320 Q319
VR301	D308	Q301
VR305		Q318 Q152
	D311 D312	Q302 Q153
	D305	Q309 Q323
VR303		Q324 Q313 Q321
L308 VR156		Q325 Q311 Q322
VR155		
T303 VR152	D306 D307 D314 D313	Q305 Q160
	D316 D315	Q155 Q306 Q158
T304 VR154		
	D318 D317	
VR302		Q156 Q307 Q308
	D320 D319	
VR153		Q159 Q157

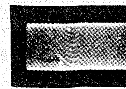

㉘ *0.1 Vp-p (Horiz.)*

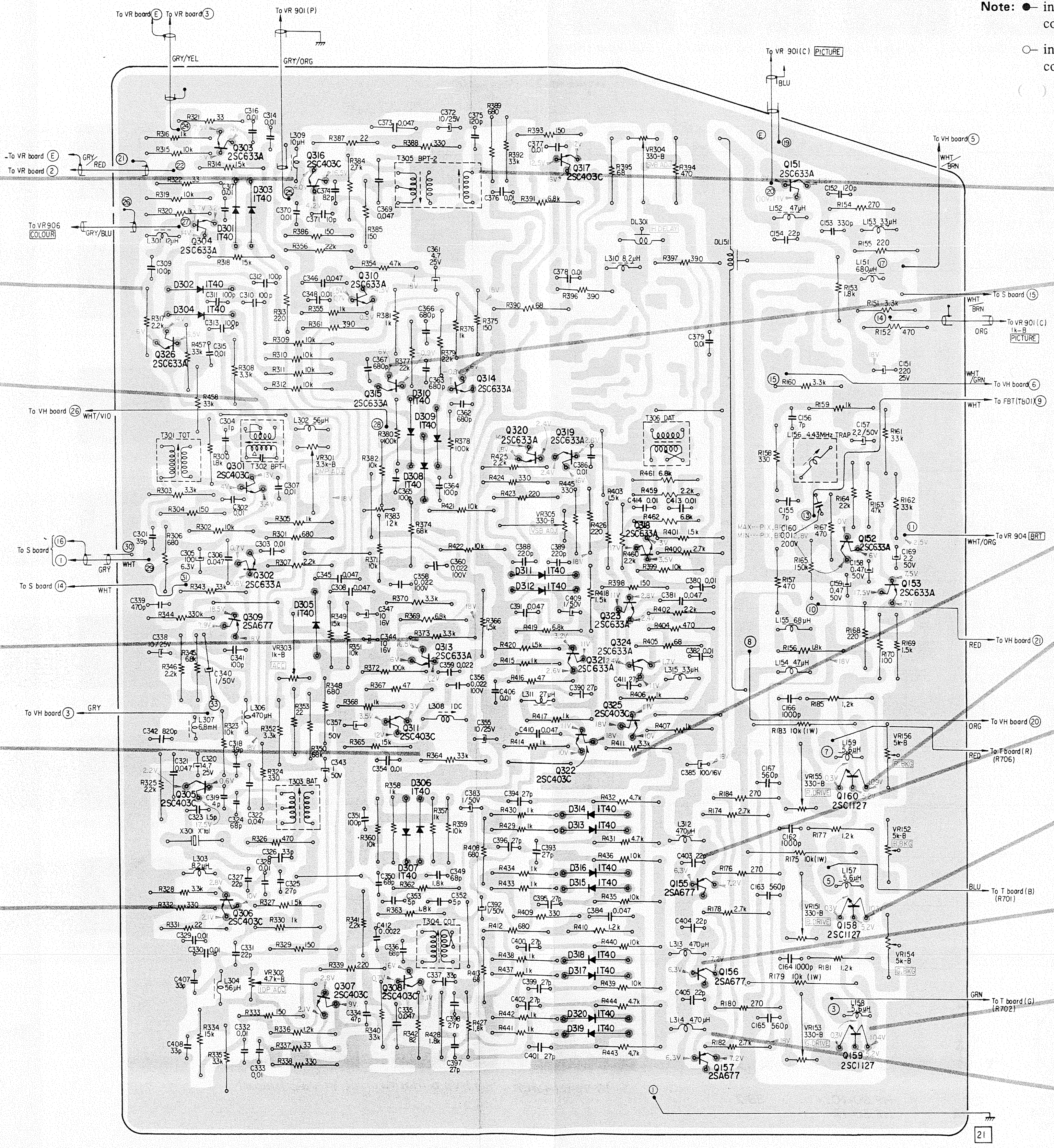

㉔ *0.8 Vp-p (Horiz.)*

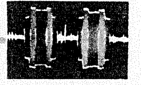

㉓ *0.7 Vp-p (Horiz.)*

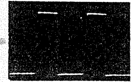

㉗ *10 Vp-p (Horiz.)*

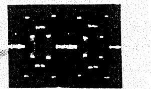

㉖ *1.0 Vp-p (Horiz.)*

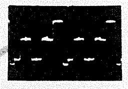

㉕ *1.4～2.0 Vp-p (Horiz.)*

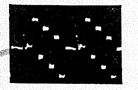

To VR board Ⓔ
To VR board ③
To VR 901 (P)
GRY/YEL
GRY/ORG
To VR 901 (C) PICTURE
BLU
To VR board Ⓔ
To VR board ②
GRY/RED
To VR 906 COLOUR
GRY/BLU
To VH board ⑤
WHT/BRN
To S board ⑮
WHT BRN ORG
To VR 901 (C) 1k-B PICTURE
To VH board ⑥
WHT/GRN
WHT To FBT (TbO1) ⑨
To VH board ㉖
WHT/VIO
To S board ⑯
GRY WHT
To S board ⑭
WHT
To VR 904 BRT
WHT/ORG
RED To VH board ②
To VH board ③
GRY
ORG To VH board ⑳
RED To T board (R) (R706)
BLU To T board (B) (R701)
GRN To T board (G) (R702)
Q303 2SC633A
Q316 2SC403C
Q317 2SC403C
Q151 2SC633A
Q304 2SC633A
Q310 2SC633A
Q326 2SC633A
Q314 2SC633A
Q315 2SC633A
Q320 2SC633A
Q319 2SC633A
Q301 2SC403C
Q318 2SC633A
Q152 2SC633A
Q302 2SC633A
Q153 2SC633A
Q309 2SA677
Q323 2SC633A
Q313 2SC633A
Q324 2SC633A
Q321 2SC633A
Q325 2SC403C
Q311 2SC403C
Q322 2SC403C
Q305 2SC403C
Q160 2SC1127
Q155 2SA677
Q306 2SC403C
Q158 2SC1127
Q307 2SC403C
Q308 2SC403C
Q156 2SA677
Q159 2SC1127
Q157 2SA677
D301 1T40
D302 1T40
D303 1T40
D304 1T40
D305 1T40
D306 1T40
D307 1T40
D308 1T40
D309 1T40
D310 1T40
D311 1T40
D312 1T40
D313 1T40
D314 1T40
D315 1T40
D316 1T40
D317 1T40
D318 1T40
D319 1T40
D320 1T40
T305 BPT-2
T301 TOT
T302 BPT-1
T306 DAT
T303 BAT
T304 COT
DL301
DL151
L156 4.43MHz TRAP
VR304 330-B
VR305 330-B
VR301 3.3k-B
VR303 1k-B
VR302 4.7k-B
VR156 5k-B
VR155 330-B
VR152 5k-B
VR151 330-B
VR154 5k-B
VR153 330-B
X301 X'tal
MAX—P.X.B
MIN—P.X.B
21

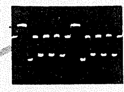

㉙ *1.5 Vp-p (Horiz.)*

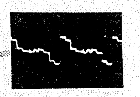

㊲, ㊳ *13 Vp-p (Horiz.)*

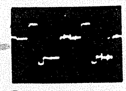

㉚ *3.8 Vp-p (Horiz.)*

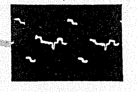

㊱ *80 Vp-p (Horiz.)*


㉝ *3.6 Vp-p (Horiz.)*


㉞ *85 Vp-p (Horiz.)*


㉜ *1.8 Vp-p (Horiz.)*

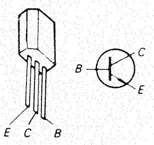

㉟ *95 Vp-p (Horiz.)*


㉛ *3.0 Vp-p (Horiz.)*

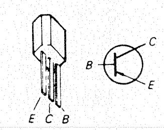
Note: ●— indicates parts or wire connection point on the conductor side.

○— indicates parts or wire connection point on the component side.

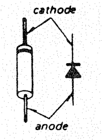
( ) No signal in.



2SC403C
2SC633A



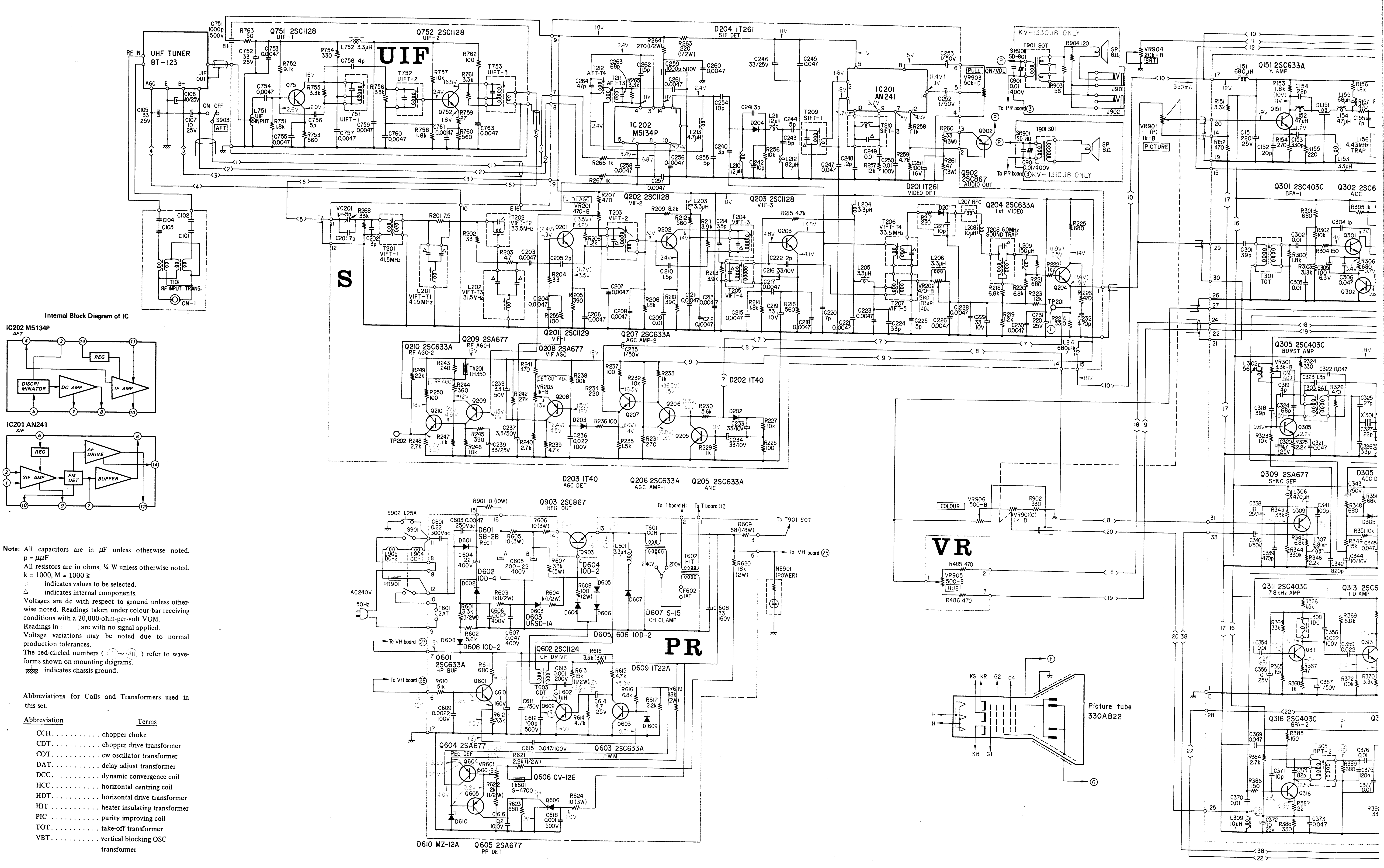
2SA677


cathode
anode

1T40

6-10. SCHEMATIC DIAGRAM

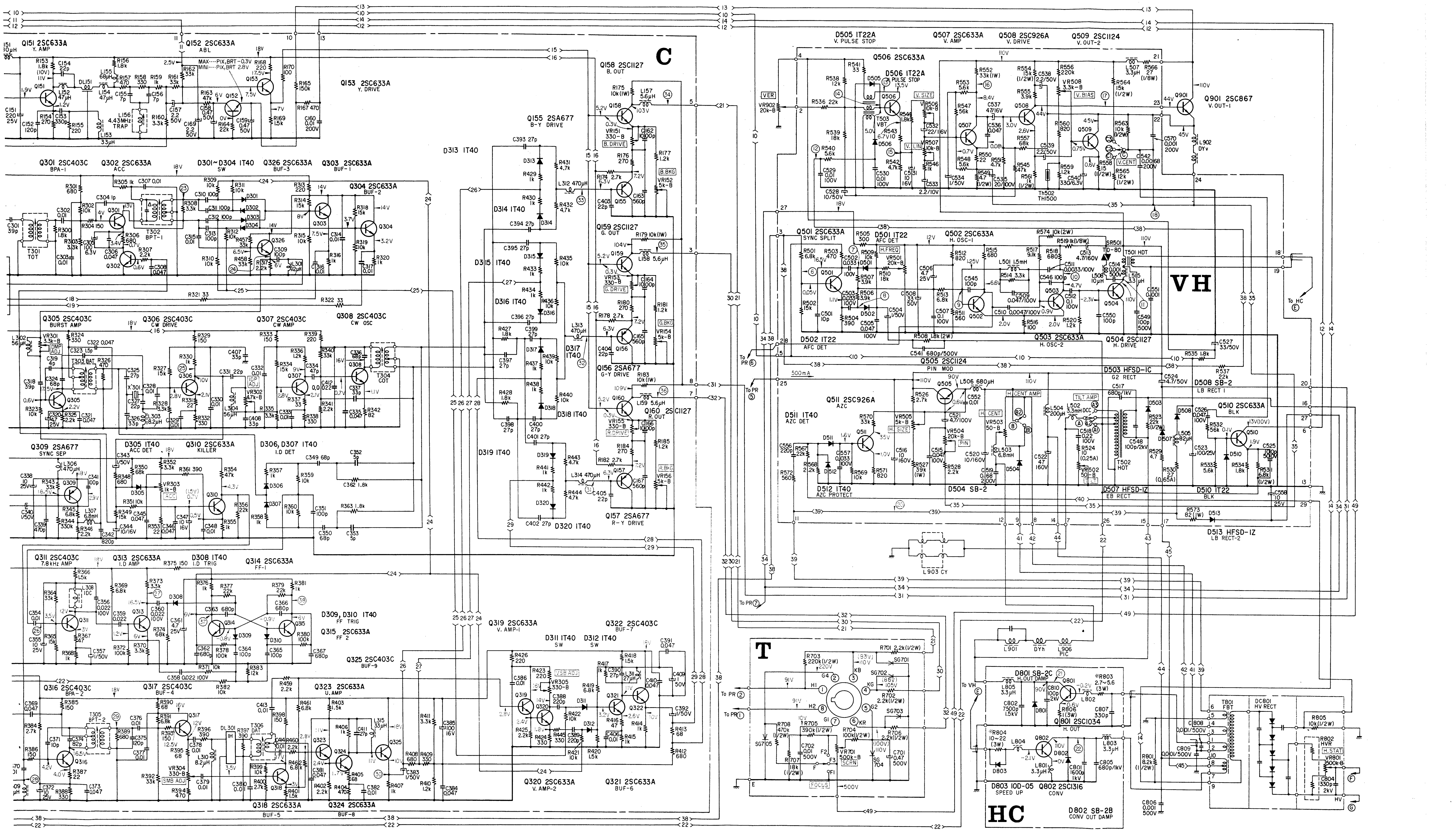
KV-1310UB KV-1310UB
KV-1330UB KV-1330UB


Internal Block Diagram of IC
IC202 M5134P
AFT
REG
DISCRI MINATOR
DC AMP
IF AMP
IC201 AN241
SIF
REG
AF DRIVE
SIF AMP
FM DET
BUFFER
UHF TUNER BT-123
RF IN
UIF OUT
UIF
Q751 2SC1128 UIF-1
Q752 2SC1128 UIF-2
T752 UIFT-2
T753 UIFT-3
T751 UIFT-1
S903 AFT
T101 RF INPUT TRANS.
CN-1
D204 1T261 SIF DET
IC202 M5134P
IC201 AN241
T209 SIFT-1
T210 SIFT-3
PULL ON/VOL
VR903 50k-D
Q902 2SC867 AUDIO OUT
D201 1T261 VIDEO DET
KV-1330UB ONLY
KV-1310UB ONLY
T901 SOT
SP 8Ω
J901
J902
VR904 20k-B BRT
VR901 (P) 1k-B PICTURE
Q151 2SC633A Y. AMP
4.43MHz TRAP
Q301 2SC403C BPA-1
Q302 2SC6 ACC
T301 TOT
S
VC201
T201 VIFT-1 41.5MHz
L201 VIFT-T1 41.5MHz
L202 VIFT-T3 31.5MHz
T202 VIF-T2 33.5MHz
Q202 2SC1128 VIF-2
T203 VIFT-2
Q203 2SC1128 VIF-3
T204 VIFT-3
T205 VIFT-4
T206 VIFT-T4 33.5MHz
T207 VIFT-5
T208 6.0MHz SOUND TRAP
Q204 2SC633A 1st VIDEO
VR202 470-B SND TRAP ADJ
VR201 470-B U Tu AGC
Q201 2SC1129 VIF-1
Q207 2SC633A AGC AMP-2
Q209 2SA677 RF AGC-1
Q210 2SC633A RF AGC-2
Q208 2SA677 VIF AGC
VR203 1k-B DET OUT ADJ
D202 1T40
TP201
TP202
D203 1T40 AGC DET
Q206 2SC633A AGC AMP-1
Q205 2SC633A ANC
Q305 2SC403C BURST AMP
T303 BAT
Q309 2SA677 SYNC SEP
D305 ACC D
Q311 2SC403C 7.8kHz AMP
Q313 2SC6 I.D AMP
Q316 2SC403C BPA-2
T305 BPT-2
VR906 500-B COLOUR
VR902 1k-B
VR
VR905 500-B HUE
Picture tube 330AB22
KG KR G2 G4 KB G1
S902 L25A
S901
AC240V 50Hz
PR901
F601 2AT
D601 SB-2B RECT
D602 10D-4
D603 U05D-1A
Q903 2SC867 REG OUT
D604 10D-2
D605, 606 10D-2
T601 CCH
T602 HIT
F602 1AT
D607 S-15 CH CLAMP
NE901 (POWER)
To T901 SOT
To VH board ㉕
To VH board ㉗
To VH board ㉘
PR
Q601 2SC633A HP BUF
D608 10D-2
Q602 2SC1124 CH DRIVE
D609 1T22A
T603 CDT
Q603 2SC633A PWM
Q604 2SA677 REG DEF
VR601 500-B
Q606 CV-12E
Th601 S-4700
Q605 2SA677 PP DET
D610 MZ-12A

Note: All capacitors are in μF unless otherwise noted.
p = $\mu\mu$F
All resistors are in ohms, ¼ W unless otherwise noted.
k = 1000, M = 1000 k
⁘ indicates values to be selected.
△ indicates internal components.
Voltages are dc with respect to ground unless otherwise noted. Readings taken under colour-bar receiving conditions with a 20,000-ohm-per-volt VOM.
Readings in ( ) are with no signal applied.
Voltage variations may be noted due to normal production tolerances.
The red-circled numbers (① ~ ㊵) refer to waveforms shown on mounting diagrams.
⏚ indicates chassis ground.

Abbreviations for Coils and Transformers used in this set.

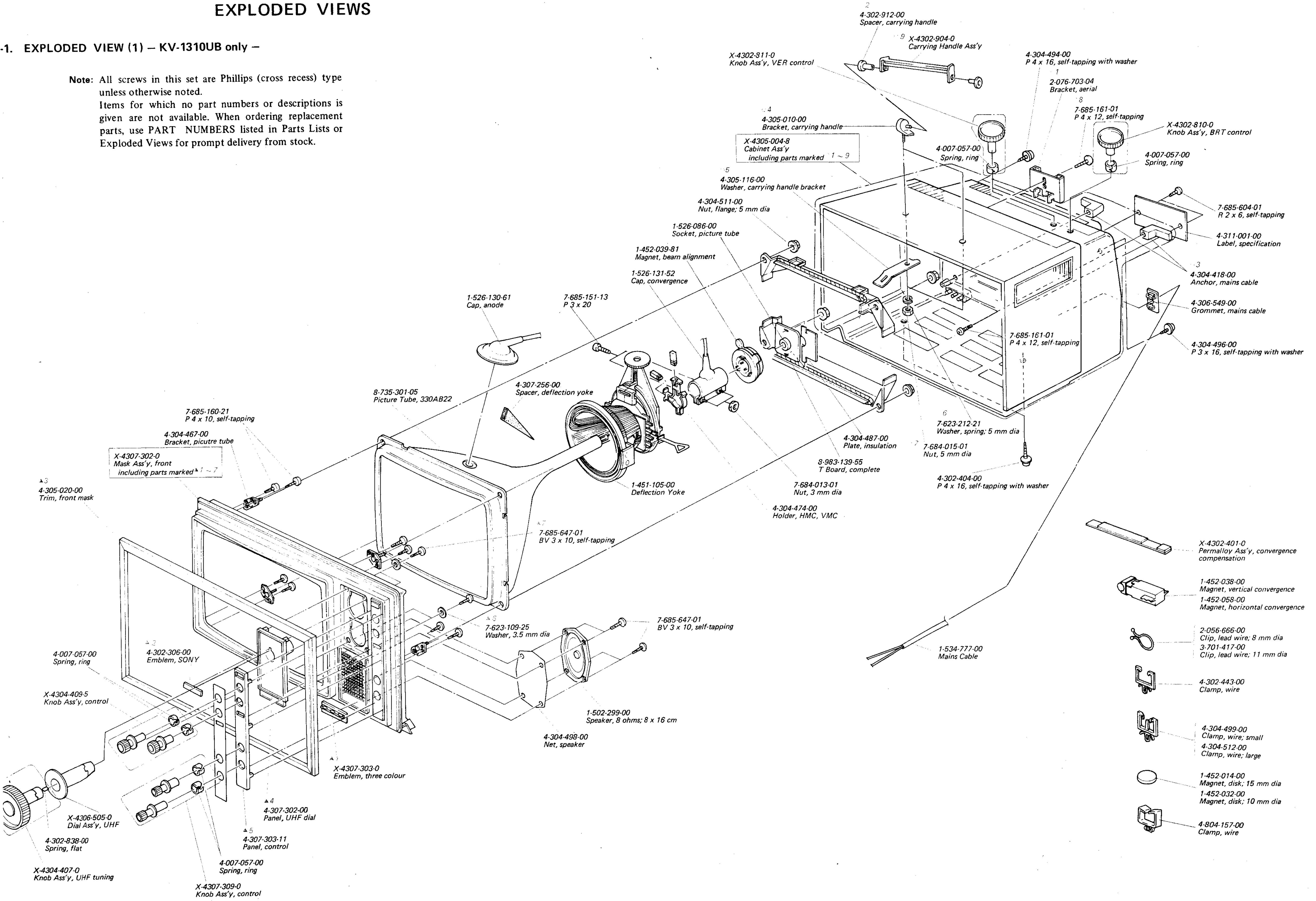
Abbreviation	Terms
CCH	chopper choke
CDT	chopper drive transformer
COT	cw oscillator transformer
DAT	delay adjust transformer
DCC	dynamic convergence coil
HCC	horizontal centring coil
HDT	horizontal drive transformer
HIT	heater insulating transformer
PIC	purity improving coil
TOT	take-off transformer
VBT	vertical blocking OSC transformer


C
VH
T
HC
Q151 2SC633A Y. AMP
Q152 2SC633A ABL
MAX····PIX,BRT-0.3V
MINI····PIX,BRT 2.8V
Q153 2SC633A Y. DRIVE
L156 4.43MHz TRAP
Q301 2SC403C BPA-1
Q302 2SC633A ACC
D301~D304 1T40 SW
Q326 2SC633A BUF-3
Q303 2SC633A BUF-1
Q304 2SC633A BUF-2
T302 BPT-1
T301 TOT
Q305 2SC403C BURST AMP
Q306 2SC403C CW DRIVE
Q307 2SC633A CW AMP
Q308 2SC403C CW OSC
T303 BAT
T304 COT
VR301 3.3k-B DMP ADJ
VR302 4.7k-B IDP ADJ
Q309 2SA677 SYNC SEP
D305 1T40 ACC DET
Q310 2SC633A KILLER
VR303 1k-B ACC
D306, D307 1T40 I.D DET
Q311 2SC403C 7.8kHz AMP
Q313 2SC633A I.D AMP
D308 1T40 I.D TRIG
Q314 2SC633A FF-1
D309, D310 1T40 FF TRIG
Q315 2SC633A FF 2
Q325 2SC403C BUF-9
Q316 2SC403C BPA-2
Q317 2SC403C BUF-4
T305 BPT-2
T306 DAT
DL301 1H
VR304 330-B SMB ADJ
Q318 2SC633A BUF-5
Q323 2SC633A U. AMP
Q324 2SC633A BUF-8
D313 1T40
D314 1T40
D315 1T40
D316 1T40
D317 1T40
D318 1T40
D319 1T40
D320 1T40
Q155 2SA677 B-Y DRIVE
Q156 2SA677 G-Y DRIVE
Q157 2SA677 R-Y DRIVE
Q158 2SC1127 B. OUT
Q159 2SC1127 G. OUT
Q160 2SC1127 R. OUT
VR151 330-B B.DRIVE
VR152 5k-B B.BKG
VR153 330-B G.DRIVE
VR154 5k-B G.BKG
VR155 330-B R.DRIVE
VR156 5k-B R.BKG
Q319 2SC633A V. AMP-1
D311 1T40 SW
D312 1T40 SW
Q322 2SC403C BUF-7
VR305 330-B 7SB ADJ
Q320 2SC633A V. AMP-2
Q321 2SC633A BUF-6
D505 1T22A V. PULSE STOP
Q506 2SC633A
D506 1T22A PULSE STOP
Q507 2SC633A V. AMP
Q508 2SC926A V. DRIVE
Q509 2SC1124 V. OUT-2
Q901 2SC867 V. OUT-1
VER
VR902 20k-B
V.SIZE
V.LIN
V.BIAS
V.CENT
T503 VBT
VR506 10k-B
VR507 10k-B
VR508 3.3k-B
Th502 TH1500
L902 DYv
Q501 2SC633A SYNC SPLIT
D501 1T22 AFC DET
Q502 2SC633A H. OSC-1
Q503 2SC633A H. OSC-2
Q504 2SC1127 H. DRIVE
D502 1T22 AFC DET
H.FREQ
VR501 20k-B
SR501 TD-80
T501 HDT
Q505 2SC1124 PIN MOD
D503 HFSD-1C G2 RECT
D508 SB-2 LB RECT 1
Q510 2SC633A BLK
Q511 2SC926A AZC
D511 1T40 AZC DET
D512 1T40 AZC PROTECT
H.SIZE
VR505 5k-B
VR504 20k-B PIN
H.CENT
H.CENT AMP
TILT AMP
VR503 50-B
VR502 50-B
T502 HOT
D504 SB-2
D507 HFSD-1Z EB RECT
D510 1T22 BLK
D513 HFSD-1Z LB RECT-2
L903 CY
L901
DYh
L906 PIC
To PR 2
To PR 1
To PR 5
To PR 6
To PR 7
To VH E
To HC E
SG701
SG702
SG703
SG704
SG705
R705 390k(1/2W)
VR701 500k-B SCRN
FOCUS
KB
KG
KR
G1
G2
G4
H1
H2
D801 SB-2C H. OUT DAMP
Q801 2SC1034 H. OUT
Q802 2SC1316 CONV
D803 10D-05 SPEED UP
D802 SB-2B CONV OUT DAMP
T801 FBT
DC801 HV RECT
VR801 500k-B H.STAT
HV
500mA

SECTION 7
EXPLODED VIEWS

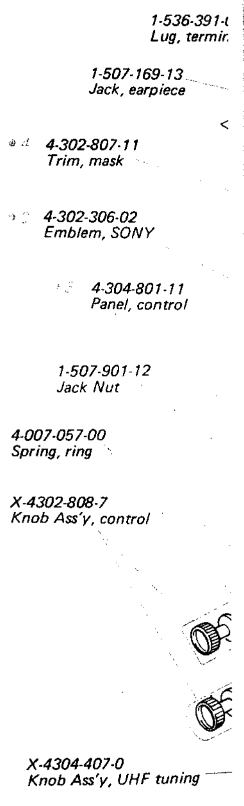
7-1. EXPLODED VIEW (1) – KV-1310UB only –

Note: All screws in this set are Phillips (cross recess) type unless otherwise noted.
Items for which no part numbers or descriptions is given are not available. When ordering replacement parts, use PART NUMBERS listed in Parts Lists or Exploded Views for prompt delivery from stock.


2
4-302-912-00
Spacer, carrying handle
9 X-4302-904-0
Carrying Handle Ass'y
X-4302-811-0
Knob Ass'y, VER control
4-304-494-00
P 4 x 16, self-tapping with washer
1
2-076-703-04
Bracket, aerial
8
7-685-161-01
P 4 x 12, self-tapping
X-4302-810-0
Knob Ass'y, BRT control
4
4-305-010-00
Bracket, carrying handle
X-4305-004-8
Cabinet Ass'y
including parts marked 1 ~ 9
4-007-057-00
Spring, ring
4-007-057-00
Spring, ring
5
4-305-116-00
Washer, carrying handle bracket
4-304-511-00
Nut, flange; 5 mm dia
7-685-604-01
R 2 x 6, self-tapping
1-526-086-00
Socket, picture tube
4-311-001-00
Label, specification
1-452-039-81
Magnet, beam alignment
3
4-304-418-00
Anchor, mains cable
1-526-131-52
Cap, convergence
4-306-549-00
Grommet, mains cable
1-526-130-61
Cap, anode
7-685-151-13
P 3 x 20
7-685-161-01
P 4 x 12, self-tapping
4-304-496-00
P 3 x 16, self-tapping with washer
8-735-301-05
Picture Tube, 330AB22
4-307-256-00
Spacer, deflection yoke
7-685-160-21
P 4 x 10, self-tapping
6
7-623-212-21
Washer, spring; 5 mm dia
4-304-467-00
Bracket, picutre tube
4-304-487-00
Plate, insulation
7 7-684-015-01
Nut, 5 mm dia
X-4307-302-0
Mask Ass'y, front
including parts marked ▲1 ~ 7
8-983-139-55
T Board, complete
▲3
4-305-020-00
Trim, front mask
4-302-404-00
P 4 x 16, self-tapping with washer
1-451-105-00
Deflection Yoke
7-684-013-01
Nut, 3 mm dia
4-304-474-00
Holder, HMC, VMC
▲7
7-685-647-01
BV 3 x 10, self-tapping
X-4302-401-0
Permalloy Ass'y, convergence compensation
1-452-038-00
Magnet, vertical convergence
1-452-058-00
Magnet, horizontal convergence
▲6
7-623-109-25
Washer, 3.5 mm dia
7-685-647-01
BV 3 x 10, self-tapping
2-056-666-00
Clip, lead wire; 8 mm dia
3-701-417-00
Clip, lead wire; 11 mm dia
4-007-057-00
Spring, ring
▲2
4-302-306-00
Emblem, SONY
1-534-777-00
Mains Cable
4-302-443-00
Clamp, wire
X-4304-409-5
Knob Ass'y, control
1-502-299-00
Speaker, 8 ohms; 8 x 16 cm
4-304-499-00
Clamp, wire; small
4-304-512-00
Clamp, wire; large
4-304-498-00
Net, speaker
▲7
X-4307-303-0
Emblem, three colour
1-452-014-00
Magnet, disk; 15 mm dia
1-452-032-00
Magnet, disk; 10 mm dia
X-4306-505-0
Dial Ass'y, UHF
▲4
4-307-302-00
Panel, UHF dial
4-804-157-00
Clamp, wire
4-302-838-00
Spring, flat
▲5
4-307-303-11
Panel, control
4-007-057-00
Spring, ring
X-4304-407-0
Knob Ass'y, UHF tuning
X-4307-309-0
Knob Ass'y, control

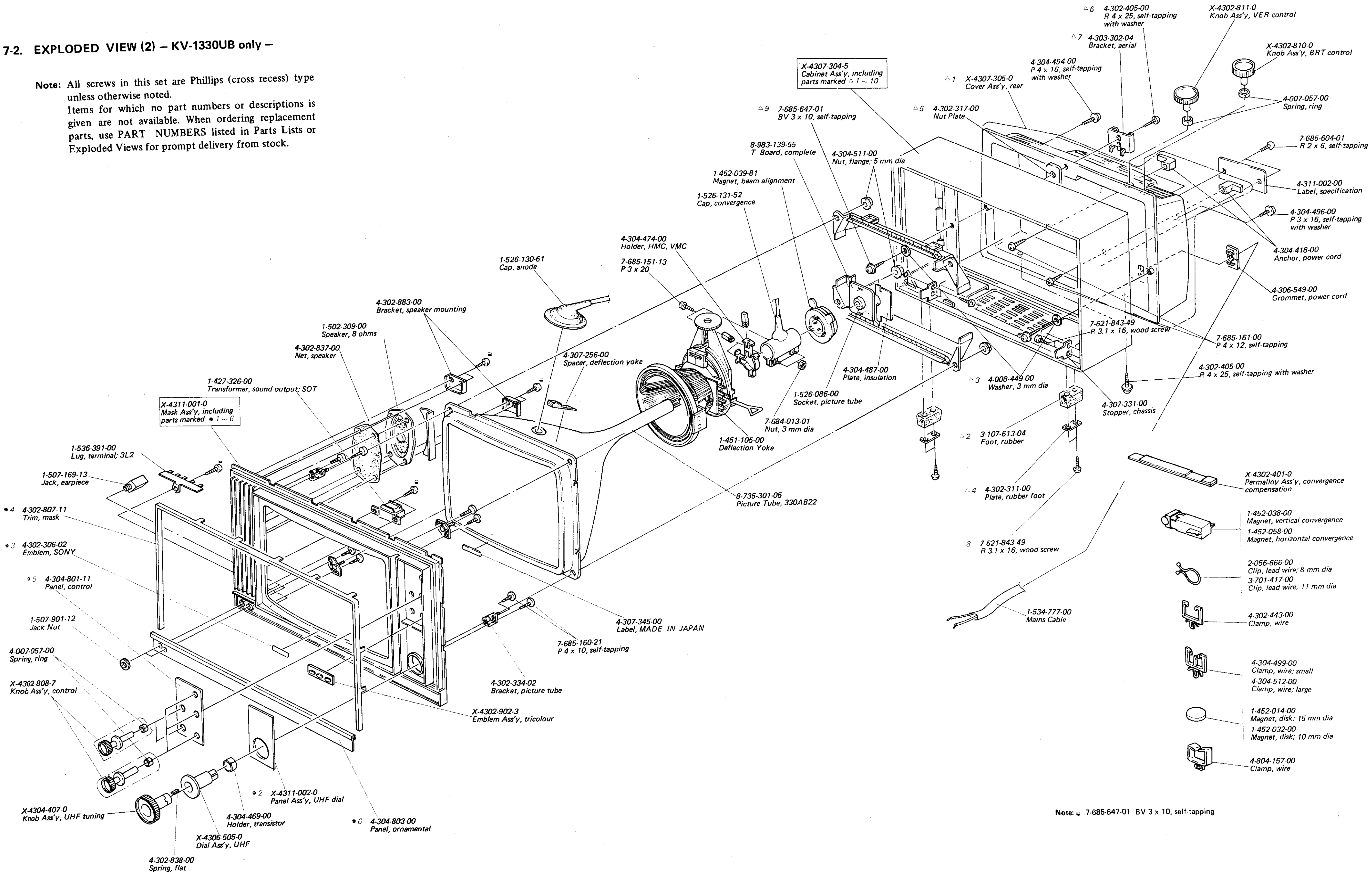
7-2. EXPLODEI

Note: All sc
unless
Items
given
parts,
Exploc


1-536-391-
Lug, termir
1-507-169-13
Jack, earpiece
4-302-807-11
Trim, mask
4-302-306-02
Emblem, SONY
4-304-801-11
Panel, control
1-507-901-12
Jack Nut
4-007-057-00
Spring, ring
X-4302-808-7
Knob Ass'y, control
X-4304-407-0
Knob Ass'y, UHF tuning

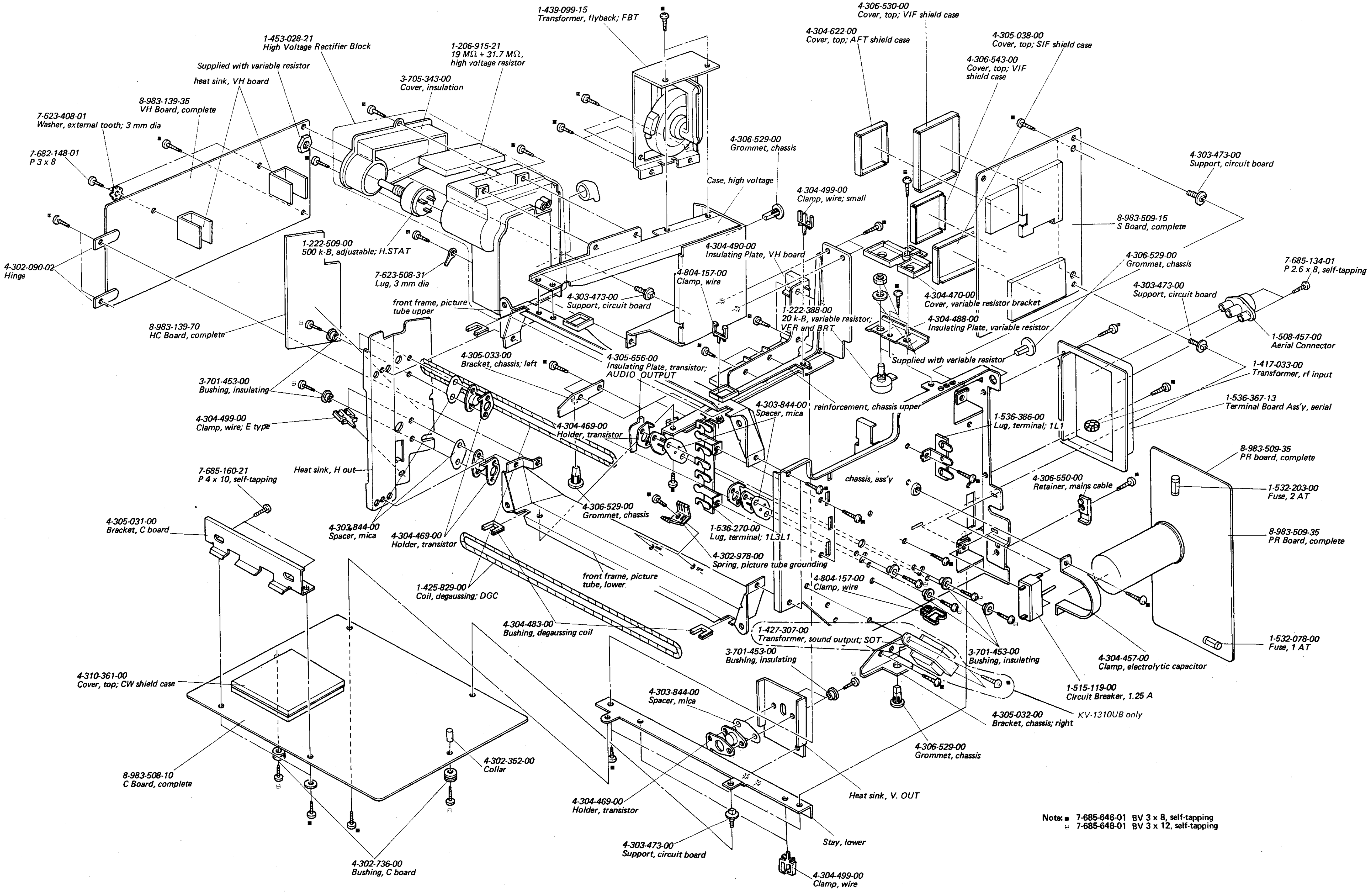
7-2. EXPLODED VIEW (2) – KV-1330UB only –

Note: All screws in this set are Phillips (cross recess) type unless otherwise noted.
Items for which no part numbers or descriptions is given are not available. When ordering replacement parts, use PART NUMBERS listed in Parts Lists or Exploded Views for prompt delivery from stock.


△6 4-302-405-00
R 4 x 25, self-tapping
with washer
X-4302-811-0
Knob Ass'y, VER control
△7 4-303-302-04
Bracket, aerial
X-4302-810-0
Knob Ass'y, BRT control
X-4307-304-5
Cabinet Ass'y, including
parts marked △ 1 ~ 10
4-304-494-00
P 4 x 16, self-tapping
with washer
△1 X-4307-305-0
Cover Ass'y, rear
4-007-057-00
Spring, ring
△9 7-685-647-01
BV 3 x 10, self-tapping
△5 4-302-317-00
Nut Plate
7-685-604-01
R 2 x 6, self-tapping
8-983-139-55
T Board, complete
4-304-511-00
Nut, flange; 5 mm dia
1-452-039-81
Magnet, beam alignment
4-311-002-00
Label, specification
1-526-131-52
Cap, convergence
4-304-496-00
P 3 x 16, self-tapping
with washer
4-304-474-00
Holder, HMC, VMC
4-304-418-00
Anchor, power cord
1-526-130-61
Cap, anode
7-685-151-13
P 3 x 20
4-306-549-00
Grommet, power cord
4-302-883-00
Bracket, speaker mounting
1-502-309-00
Speaker, 8 ohms
7-621-843-49
R 3.1 x 16, wood screw
7-685-161-00
P 4 x 12, self-tapping
4-302-837-00
Net, speaker
4-307-256-00
Spacer, deflection yoke
4-304-487-00
Plate, insulation
4-302-405-00
R 4 x 25, self-tapping with washer
1-427-326-00
Transformer, sound output; SOT
△3 4-008-449-00
Washer, 3 mm dia
1-526-086-00
Socket, picture tube
4-307-331-00
Stopper, chassis
X-4311-001-0
Mask Ass'y, including
parts marked ● 1 ~ 6
7-684-013-01
Nut, 3 mm dia
1-451-105-00
Deflection Yoke
△2 3-107-613-04
Foot, rubber
1-536-391-00
Lug, terminal; 3L2
1-507-169-13
Jack, earpiece
X-4302-401-0
Permalloy Ass'y, convergence
compensation
△4 4-302-311-00
Plate, rubber foot
8-735-301-05
Picture Tube, 330AB22
●4 4-302-807-11
Trim, mask
1-452-038-00
Magnet, vertical convergence
1-452-058-00
Magnet, horizontal convergence
●3 4-302-306-02
Emblem, SONY
△8 7-621-843-49
R 3.1 x 16, wood screw
●5 4-304-801-11
Panel, control
2-056-666-00
Clip, lead wire; 8 mm dia
3-701-417-00
Clip, lead wire; 11 mm dia
1-507-901-12
Jack Nut
4-307-345-00
Label, MADE IN JAPAN
1-534-777-00
Mains Cable
4-302-443-00
Clamp, wire
4-007-057-00
Spring, ring
7-685-160-21
P 4 x 10, self-tapping
4-304-499-00
Clamp, wire; small
4-304-512-00
Clamp, wire; large
X-4302-808-7
Knob Ass'y, control
4-302-334-02
Bracket, picture tube
X-4302-902-3
Emblem Ass'y, tricolour
1-452-014-00
Magnet, disk; 15 mm dia
1-452-032-00
Magnet, disk; 10 mm dia
4-804-157-00
Clamp, wire
●2 X-4311-002-0
Panel Ass'y, UHF dial
X-4304-407-0
Knob Ass'y, UHF tuning
4-304-469-00
Holder, transistor
●6 4-304-803-00
Panel, ornamental
X-4306-505-0
Dial Ass'y, UHF
4-302-838-00
Spring, flat

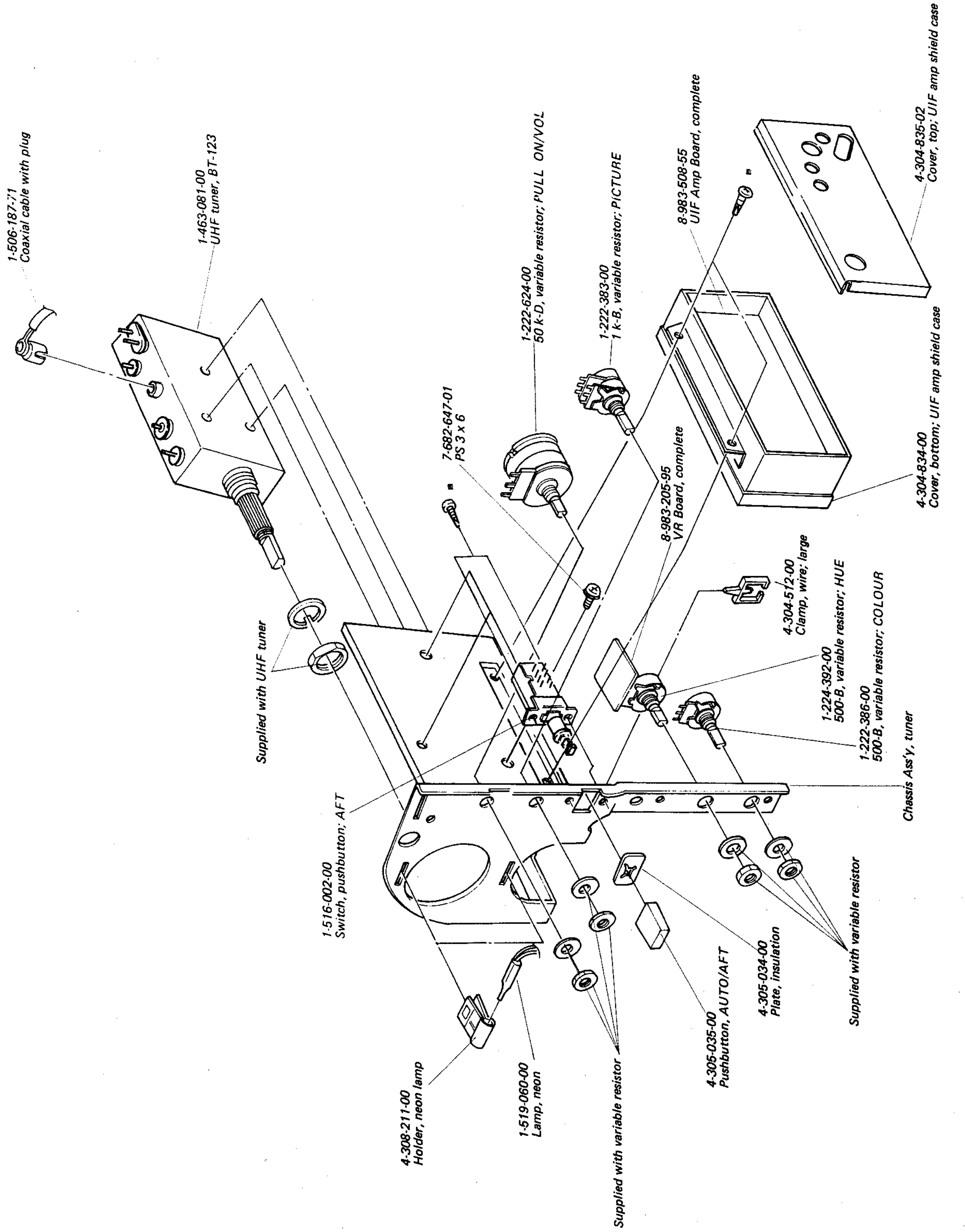
Note: ▪ 7-685-647-01 BV 3 x 10, self-tapping

7-3. EXPLODED VIEW (3)


1-439-099-15
Transformer, flyback; FBT
4-306-530-00
Cover, top; VIF shield case
4-304-622-00
Cover, top; AFT shield case
4-305-038-00
Cover, top; SIF shield case
4-306-543-00
Cover, top; VIF shield case
1-453-028-21
High Voltage Rectifier Block
1-206-915-21
19 MΩ + 31.7 MΩ, high voltage resistor
Supplied with variable resistor
heat sink, VH board
3-705-343-00
Cover, insulation
8-983-139-35
VH Board, complete
7-623-408-01
Washer, external tooth; 3 mm dia
7-682-148-01
P 3 x 8
4-306-529-00
Grommet, chassis
Case, high voltage
4-304-499-00
Clamp, wire; small
4-303-473-00
Support, circuit board
8-983-509-15
S Board, complete
1-222-509-00
500 k-B, adjustable; H.STAT
4-304-490-00
Insulating Plate, VH board
4-306-529-00
Grommet, chassis
7-685-134-01
P 2.6 x 8, self-tapping
4-302-090-02
Hinge
7-623-508-31
Lug, 3 mm dia
4-804-157-00
Clamp, wire
4-303-473-00
Support, circuit board
front frame, picture tube upper
4-303-473-00
Support, circuit board
1-222-388-00
20 k-B, variable resistor; VER and BRT
4-304-470-00
Cover, variable resistor bracket
8-983-139-70
HC Board, complete
4-304-488-00
Insulating Plate, variable resistor
1-508-457-00
Aerial Connector
4-305-033-00
Bracket, chassis; left
4-305-656-00
Insulating Plate, transistor; AUDIO OUTPUT
Supplied with variable resistor
1-417-033-00
Transformer, rf input
3-701-453-00
Bushing, insulating
1-536-367-13
Terminal Board Ass'y, aerial
4-303-844-00
Spacer, mica
reinforcement, chassis upper
4-304-499-00
Clamp, wire; E type
4-304-469-00
Holder, transistor
1-536-386-00
Lug, terminal; 1L1
8-983-509-35
PR board, complete
Heat sink, H out
chassis, ass'y
7-685-160-21
P 4 x 10, self-tapping
4-306-550-00
Retainer, mains cable
1-532-203-00
Fuse, 2 AT
4-306-529-00
Grommet, chassis
4-305-031-00
Bracket, C board
1-536-270-00
Lug, terminal; 1L3L1
4-303-844-00
Spacer, mica
4-304-469-00
Holder, transistor
8-983-509-35
PR Board, complete
4-302-978-00
Spring, picture tube grounding
front frame, picture tube, lower
4-804-157-00
Clamp, wire
1-425-829-00
Coil, degaussing; DGC
4-304-483-00
Bushing, degaussing coil
1-427-307-00
Transformer, sound output; SOT
1-532-078-00
Fuse, 1 AT
3-701-453-00
Bushing, insulating
3-701-453-00
Bushing, insulating
4-304-457-00
Clamp, electrolytic capacitor
4-310-361-00
Cover, top; CW shield case
4-303-844-00
Spacer, mica
1-515-119-00
Circuit Breaker, 1.25 A
4-305-032-00
Bracket, chassis; right
KV-1310UB only
4-306-529-00
Grommet, chassis
8-983-508-10
C Board, complete
4-302-352-00
Collar
Heat sink, V. OUT
4-304-469-00
Holder, transistor
Stay, lower
4-303-473-00
Support, circuit board
4-302-736-00
Bushing, C board
4-304-499-00
Clamp, wire

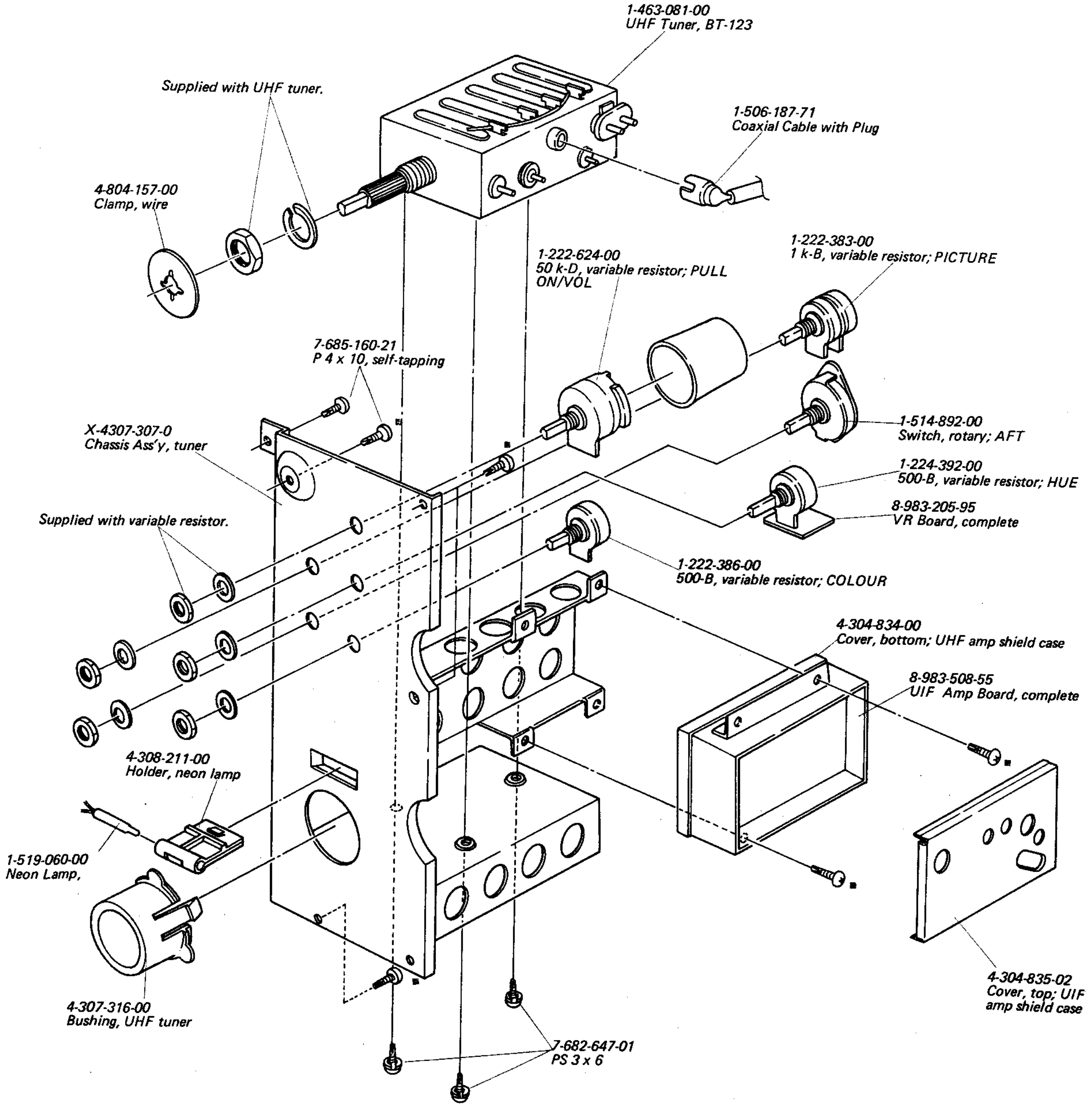
Note: ■ 7-685-646-01 BV 3 x 8, self-tapping
⊟ 7-685-648-01 BV 3 x 12, self-tapping

7-4. EXPLODED VIEW (4) – KV-1310UB only –


1-506-187-71
Coaxial cable with plug
1-463-081-00
UHF tuner, BT-123
1-222-624-00
50 k-D, variable resistor; PULL ON/VOL
1-222-383-00
1 k-B, variable resistor; PICTURE
8-983-508-55
UIF Amp Board, complete
4-304-835-02
Cover, top; UIF amp shield case
7-682-647-01
PS 3 x 6
■
8-983-205-95
VR Board, complete
4-304-834-00
Cover, bottom; UIF amp shield case
4-304-512-00
Clamp, wire; large
1-224-392-00
500-B, variable resistor; HUE
1-222-386-00
500-B, variable resistor; COLOUR
Chassis Ass'y, tuner
Supplied with UHF tuner
1-516-002-00
Switch, pushbutton; AFT
Supplied with variable resistor
4-305-035-00
Pushbutton, AUTO/AFT
4-305-034-00
Plate, insulation
Supplied with variable resistor
1-519-060-00
Lamp, neon
4-308-211-00
Holder, neon lamp

Note: ■ 7-685-646-01
BV 3 x 8, self-tapping

7-5. EXPLODED VIEW (5) – KV-1330UB only –


1-463-081-00
UHF Tuner, BT-123
Supplied with UHF tuner.
1-506-187-71
Coaxial Cable with Plug
4-804-157-00
Clamp, wire
1-222-624-00
50 k-D, variable resistor; PULL ON/VOL
1-222-383-00
1 k-B, variable resistor; PICTURE
7-685-160-21
P 4 x 10, self-tapping
X-4307-307-0
Chassis Ass'y, tuner
1-514-892-00
Switch, rotary; AFT
1-224-392-00
500-B, variable resistor; HUE
8-983-205-95
VR Board, complete
Supplied with variable resistor.
1-222-386-00
500-B, variable resistor; COLOUR
4-304-834-00
Cover, bottom; UHF amp shield case
8-983-508-55
UIF Amp Board, complete
4-308-211-00
Holder, neon lamp
1-519-060-00
Neon Lamp,
4-307-316-00
Bushing, UHF tuner
7-682-647-01
PS 3 x 6
4-304-835-02
Cover, top; UIF amp shield case
■

Note: ■ 7-685-646-01 BV 3 x 8, self-tapping

SECTION 8

ELECTRICAL PARTS LIST

TUNERS AND CIRCUIT BOARDS

Ref. No.	Part No.	Description
	1-463-081-00	UHF Tuner, BT-123
	8-983-509-15	S Board, complete
	8-983-139-35	VH Board, complete
	8-983-509-35	PR Board, complete
	8-983-139-55	T Board, complete
	8-983-139-70	HC Board, complete
	8-983-205-95	VR Board, complete
	8-983-508-10	C Board, complete
	8-983-508-55	UIF Amp Board, complete

SEMICONDUCTORS

Ref. No.	Part No.	Description	
Q151		Transistor	2SC633A
Q152		Transistor	2SC633A
Q153		Transistor	2SC633A
Q154		--------------	
Q155		Transistor	2SA677
Q156		Transistor	2SA677
Q157		Transistor	2SA677
Q158		Transistor	2SC1127
Q159		Transistor	2SC1127
Q160		Transistor	2SC1127
Q201		Transistor	2SC1129
Q202		Transistor	2SC1128
Q203		Transistor	2SC1128
Q204		Transistor	2SC633A
Q205		Transistor	2SC633A
Q206		Transistor	2SC633A
Q207		Transistor	2SC633A
Q208		Transistor	2SA677
Q209		Transistor	2SA677
Q210		Transistor	2SC633A
Q211		Transistor	2SA677
Q301		Transistor	2SC403C
Q302		Transistor	2SC633A
Q303		Transistor	2SC633A
Q304		Transistor	2SC633A
Q305		Transistor	2SC403C
Q306		Transistor	2SC403C
Q307		Transistor	2SC403C
Q308		Transistor	2SC403C
Q309		Transistor	2SA677
Q310		Transistor	2SC633A
Q311		Transistor	2SC403C
Q312		--------------	
Q313		Transistor	2SC633A
Q314		Transistor	2SC633A
Q315		Transistor	2SC633A
Q316		Transistor	2SC403C
Q317		Transistor	2SC403C
Q318		Transistor	2SC633A
Q319		Transistor	2SC633A
Q320		Transistor	2SC633A
Q321		Transistor	2SC633A
Q322		Transistor	2SC403C
Q323		Transistor	2SC633A
Q324		Transistor	2SC633A
Q325		Transistor	2SC403C
Q326		Transistor	2SC633A
Q501		Transistor	2SC633A
Q502		Transistor	2SC633A
Q503		Transistor	2SC633A
Q504		Transistor	2SC1127
Q505		Transistor	2SC1124
Q506		Transistor	2SC633A
Q507		Transistor	2SC633A
Q508		Transistor	2SC926A
Q509		Transistor	2SC1124
Q510		Transistor	2SC633A
Q511		Transistor	2SC926A
Q601		Transistor	2SC633A
Q602		Transistor	2SC1124
Q603		Transistor	2SC633A
Q604		Transistor	2SA677
Q605		Transistor	2SA677
Q606		Thyristor	CV-12E
Q751		Transistor	2SC1128

Ref. No.	Part No.	Description	
Q752		Transistor	2SC1128
Q801		Transistor	2SC1034
Q802		Transistor	2SC1316
Q901		Transistor	2SC867
Q902		Transistor	2SC867
Q903		Transistor	2SC867
IC201		IC	AN241
IC202		IC	M5134P
D201		Diode	1T261
D202		Diode	1T40
D203		Diode	1T40
D204		Diode	1T261
D301		Diode	1T40
D302		Diode	1T40
D303		Diode	1T40
D304		Diode	1T40
D305		Diode	1T40
D306		Diode	1T40
D307		Diode	1T40
D308		Diode	1T40
D309		Diode	1T40
D310		Diode	1T40
D311		Diode	1T40
D312		Diode	1T40
D313		Diode	1T40
D314		Diode	1T40
D315		Diode	1T40
D316		Diode	1T40
D317		Diode	1T40
D318		Diode	1T40
D319		Diode	1T40
D320		Diode	1T40
D501		Diode	1T22
D502		Diode	1T22
D503		Diode	HF.SD-1C
D504		Diode	SB-2
D505		Diode	1T22A
D506		Diode	1T22A
D507		Diode	HF.SD-1Z
D508		Diode	SB-2
D509		---------------	
D510		Diode	1T22
D511		Diode	1T40
D512		Diode	1T40
D513		Diode	HF.SD-1Z
D601		Diode	SB-2B
D602		Diode	10D-4
D603		Diode	UF.SD-1A
D604		Diode	10D-2
D605		Diode	10D-2
D606		Diode	10D-2
D607		Diode	S-15
D608		Diode	10D-2
D609		Diode	1T22A
D610		Diode	MZ12A
D611		---------------	
D612		---------------	
D613		Diode	SK-1W50
D801		Diode	SB-2C
D802		Diode	SB-2B
D803		Diode	10D-05
DC801	1-453-028-21	High Voltage Rectifier Block	
	including;		
VR801	1-222-509-00	500 k-B, adjustable resistor; H.STAT	
	3-705-343-00	Lid, insulating case	
R802	1-206-915-21	19 MΩ + 31.7 MΩ, high voltage resistor	
PR901	1-800-275-00	Posistor	
SR501	1-800-032-00	Varistor	TD-80
SR901	1-800-032-00	Varistor	TD-80
Th201	1-800-071-00	Thermistor	TH-350
Th502	1-800-069-00	Thermistor	TH-1500
Th601	1-800-070-00	Thermistor	S-4700

COILS

Ref. No.	Part No.	Description
L151	1-407-557-00	680 µH, micro inductor
L152	1-407-701-00	47 µH, micro inductor
L153	1-407-699-00	33 µH, micro inductor

Ref. No.	*Part No.*	*Description*
L154	1-407-701-00	47 μH, micro inductor
L155	1-407-703-00	68 μH, micro inductor
L156	1-409-193-00	Trap, 4.43 MHz
L157	1-407-690-00	5.6 μH, micro inductor
L158	1-407-690-00	5.6 μH, micro inductor
L159	1-407-690-00	5.6 μH, micro inductor
L201	1-409-214-00	Video i-f, VIFT-T1; 40.4 MHz
L202	1-409-215-00	Video i-f, VIFT-T3; 31.9 MHz
L203	1-407-184-00	3.3 μH, micro inductor
L204	1-407-184-00	3.3 μH, micro inductor
L205	1-407-184-00	3.3 μH, micro inductor
L206	1-407-184-00	3.3 μH, micro inductor
L207	1-425-504-00	Rf
L208	1-407-190-00	10 μH, micro inductor
L209	1-407-171-00	150 μH, micro inductor
L210	1-407-158-00	12 μH, micro inductor
L211	1-407-158-00	12 μH, micro inductor
L212	1-407-168-00	82 μH, micro inductor
L213	1-407-186-00	4.7 μH, micro inductor
L214	1-407-557-00	680 μH, micro inductor
L301	1-407-694-00	12 μH, micro inductor
L302	1-407-702-00	56 μH, micro inductor
L303	1-407-692-00	8.2 μH, micro inductor
L304	1-407-702-00	56 μH, micro inductor
L305		---------------
L306	1-407-713-00	470 μH, micro inductor
L307	1-407-204-00	6.8 mH, micro inductor
L308	1-407-240-00	Identification, IDC
L309	1-407-190-00	10 μH, micro inductor
L310	1-407-692-00	8.2 μH, micro inductor
L311	1-407-698-00	27 μH, micro inductor
L312	1-407-713-00	470 μH, micro inductor
L313	1-407-713-00	470 μH, micro inductor
L314	1-407-713-00	470 μH, micro inductor
L315	1-407-699-00	33 μH, micro inductor
L501	1-407-646-00	1.5 mH, micro inductor
L502	1-459-075-00	3.3 mH, dynamic convergence; DCC
L503	1-459-074-00	6.8 mH, horizontal centering; HCC

Ref. No.	*Part No.*	*Description*
L504	1-407-346-00	200 μH, spook choke
L505	1-407-553-00	82 μH, line choke
L506	1-407-193-00	680 μH, micro inductor
L507	1-407-364-00	3.3 μH, spook choke
L508	1-407-190-00	10 μH, micro inductor
L515	1-407-364-00	3.3 μH, spook choke
L601	1-407-364-00	3.3 μH, spook choke
L602	1-407-178-00	1 μH, micro inductor
L751	1-417-008-00	Transformer, UIF input
L752	1-407-184-00	3.3 μH, micro inductor
L801	1-407-364-00	3.3 μH, spook choke
L802	1-407-364-00	Spook choke
L803	1-407-364-00	3.3 μH, spook choke
L804	1-407-364-00	Spook choke
L805	1-407-364-00	3.3 μH, spook choke
L901 L902 L903	1-451-105-00	Deflection Yoke
L904	1-425-829-00	Degaussing, DC-1
L905	1-425-829-00	Degaussing, DC-2
L906	1-452-039-00	Magnet, beam alignment; PIC
DL151	1-415-047-00	Delay Line; luminance
DL301	1-415-075-00	Delay Line, 1 H

TRANSFORMERS

T101	1-417-033-00	RF Input (included in antenna terminal board ass’y)
T102	1-417-040-00	RF Input (included in antenna terminal board ass’y)
T201	1-403-728-00	Video I-F, VIFT-1
T202	1-409-217-00	Video I-F, VIFT-T2
T203	1-403-729-00	Video I-F, VIFT-2
T204	1-403-841-00	Video I-F, VIFT-3
T205	1-403-729-00	Video I-F, VIFT-4
T206	1-409-218-00	Video I-F, VIFT-T4; 33.4 MHz
T207	1-403-730-00	Video I-F, VIFT-5
T208	1-409-216-00	Coil, sound trap; 6.0 MHz

Ref. No.	*Part No.*	*Description*
T209	1-403-864-00	Sound I-F, SIFT-1
T210	1-403-843-00	Sound I-F, SIFT-3
T211	1-403-810-00	Automatic Fine Tuning, AFT-T3
T212	1-403-811-00	Automatic Fine Tuning, AFT-T4
T301	1-425-678-00	Take-OFF, TOT
T302	1-425-831-00	Band Pass, BPT-1
T303	1-405-372-00	Burst Amplifier, BAT
T304	1-425-618-00	CW Oscillator, COT
T305	1-425-506-00	Band Pass, BPT-2
T306	1-425-832-00	Delay Adjust, DAT
T501	1-437-030-00	Horizontal Drive, HDT
T502	1-439-097-00	Horizontal Output, HOT
T503	1-435-008-00	Vertical Blocking Oscillator, VBT
T601	1-437-036-00	Chopper Choke, CCH
T602	1-441-855-00	Heater Insulating, HIT
T603	1-437-033-00	Chopper Drive, CDT
T751	1-403-807-00	UIFT-1
T752	1-403-808-00	UIFT-2
T753	1-403-809-00	UIFT-3
T801	1-439-099-00	Flyback, FBT
T901	1-427-307-00	Sound Output, SOT (KV-1310UB)
	1-427-326-00	Sound Output, SOT (KV-1330UB)

CAPACITORS

All capacitors are in μF, 50 V and ceramic unless otherwise noted. p = μμF. elect = electrolytic.

Ref. No.	*Part No.*	*Description*		
C101	1-102-238-11	47 p	250 V ac	included in antenna terminal board ass'y
C102	1-102-238-11	47 p	250 V ac	
C103	1-102-238-11	47 p	250 V ac	
C104	1-102-238-11	47 p	250 V ac	
C105	1-121-404-11	33	25 V	elect
C106	1-121-398-11	10	25 V	elect
C107	1-121-398-11	10	25 V	elect
C108	1-102-239-11	470 p	250 V ac	
C109	1-121-404-11	33	25 V	elect
C110	1-121-404-11	33	25 V	elect
C111	1-121-257-11	5	15 V	nonpolar
C112	1-121-398-11	10	25 V	elect
C113	1-121-398-11	10	25 V	elect
C151	1-121-422-11	220	25 V	elect
C152	1-102-816-11	120 p		
C153	1-102-820-11	330 p		
C154	1-102-959-11	22 p		
C155	1-102-662-11	7 p		
C156	1-102-662-11	7 p		
C157	1-121-450-11	2.2	50 V	elect
C158	1-121-726-11	0.47	50 V	elect
C159	1-121-726-11	0.47	50 V	elect
C160	1-108-692-31	0.01	200 V	mylar
C161		---------------		
C162	1-102-074-11	1000 p		
C163	1-102-115-11	560 p		
C164	1-102-074-11	1000 p		
C165	1-102-115-11	560 p		
C166	1-102-074-11	1000 p		
C167	1-102-115-11	560 p		
C168		---------------		
C169	1-121-450-11	2.2	50 V	elect
C201	1-102-662-11	7 p		
C202	1-102-862-11	3 p		
C203	1-101-003-11	0.0047		
C204	1-101-003-11	0.0047		
C205	1-102-935-11	2 p		
C206	1-101-003-11	0.0047		
C207	1-101-003-11	0.0047		
C208	1-101-003-11	0.0047		
C209	1-101-004-11	0.01		
C210	1-101-576-11	1.5 p		
C211	1-101-003-11	0.0047		
C212	1-101-003-11	0.0047		
C213	1-101-003-11	0.0047		
C214	1-101-552-11	3.5 p		
C215	1-101-003-11	0.0047		
C216	1-121-402-11	33	10 V	elect
C217	1-101-003-11	0.0047		

Ref. No.	*Part No.*	*Description*		
C218	1-101-003-11	0.0047		
C219	1-121-402-11	33	10 V	elect
C220	1-102-662-11	7 p		
C221	1-101-003-11	0.0047		
C222	1-102-935-11	2 p		
C223	1-101-003-11	0.0047		
C224	1-102-963-11	33 p		
C225	1-102-856-11	5 p		
C226	1-101-003-11	0.0047		
C227	1-102-947-11	10 p		
C228	1-101-003-11	0.0047		
C229	1-121-402-11	33	10 V	elect
C230	1-101-003-11	0.0047		
C231	1-121-422-11	220	25 V	elect
C232	1-102-098-11	470 p		
C233	1-121-402-11	33	10 V	elect
C234	1-121-402-11	33	10 V	elect
C235	1-121-391-11	1	50 V	elect
C236	1-108-630-31	0.022	100 V	mylar
C237	1-121-393-11	3.3	50 V	elect
C238	1-121-393-11	3.3	50 V	elect
C239	1-121-404-11	33	25 V	elect
C240	1-102-940-11	3 p		
C241	1-102-940-11	3 p		
C242	1-102-947-11	10 p		
C243	1-102-951-11	15 p		
C244	1-102-942-11	5 p		
C245	1-101-006-11	0.047		
C246	1-121-404-11	33	25 V	elect
C247	1-101-006-11	0.047		
C248	1-102-666-11	12 p		
C249	1-101-004-11	0.01		
C250	1-108-626-31	0.01	100 V	mylar
C251	1-121-415-11	100	16 V	elect
C252	1-121-391-11	1	50 V	elect
C253	1-121-391-11	1	50 V	elect
C254	1-102-947-11	10 p		
C255	1-102-942-11	5 p		

Ref. No.	*Part No.*	*Description*		
C256	1-101-003-11	0.0047		
C257	1-101-003-11	0.0047		
C258	1-101-003-11	0.0047		
C259	1-102-043-11	1000 p	500 V	feed through
C260	1-101-003-11	0.0047		
C261	1-101-003-11	0.0047		
C262	1-101-576-11	1.5 p		
C263	1-102-525-11	68 p		
C264	1-102-774-11	47 p		
C301	1-102-889-11	39 p		
C302	1-101-004-11	0.01		
C303	1-101-004-11	0.01		
C304	1-102-934-11	1 p		
C305	1-121-413-11	100	6.3 V	elect
C306	1-101-006-11	0.047		
C307	1-101-004-11	0.01		
C308	1-101-006-11	0.047		
C309	1-102-973-11	100 p		
C310	1-102-973-11	100 p		
C311	1-102-973-11	100 p		
C312	1-102-973-11	100 p		
C313	1-102-973-11	100 p		
C314	1-101-004-11	0.01		
C315	1-101-004-11	0.01		
C316	1-101-004-11	0.01		
C317	1-101-004-11	0.01		
C318	1-102-965-11	39 p		
C319	1-102-941-11	4 p		
C320	1-121-395-11	4.7	25 V	elect
C321	1-101-006-11	0.047		
C322	1-101-006-11	0.047		
C323	1-101-576-11	1.5 p		
C324	1-102-676-11	68 p		
C325	1-102-961-11	27 p		
C326	1-102-963-11	33 p		
C327	1-102-959-11	22 p		
C328	1-101-004-11	0.01		
C329	1-101-004-11	0.01		
C330	1-101-004-11	0.01		

Ref. No.	*Part No.*	*Description*		
C331	1-102-959-11	22 p		
C332	1-101-004-11	0.01		
C333	1-101-004-11	0.01		
C334	1-101-880-11	47 p		
C335	1-101-006-11	0.047		
C336	1-102-676-11	68 p		
C337	1-102-963-11	33 p		
C338	1-121-398-11	10	25 V	elect
C339	1-102-114-11	470 p		
C340	1-121-391-11	1	50 V	elect
C341	1-102-973-11	100 p		
C342	1-102-117-11	820 p		
C343	1-121-391-11	1	50 V	elect
C344	1-121-651-11	10	16 V	elect
C345	1-101-006-11	0.047		
C346	1-101-006-11	0.047		
C347	1-121-651-11	10	16 V	elect
C348	1-101-004-11	0.01		
C349	1-101-888-11	68 p		
C350	1-101-888-11	68 p		
C351	1-102-973-11	100 p		
C352	1-102-942-11	5 p		
C353	1-102-942-11	5 p		
C354	1-101-004-11	0.01		
C355	1-121-398-11	10	25 V	elect
C356	1-108-630-31	0.022	100 V	mylar
C357	1-121-391-11	1	50 V	elect
C358	1-108-630-31	0.022	100 V	mylar
C359	1-108-630-31	0.022	100 V	mylar
C360	1-108-630-31	0.022	100 V	mylar
C361	1-121-395-11	4.7	25 V	elect
C362	1-102-116-11	680 p		
C363	1-102-116-11	680 p		
C364	1-102-973-11	100 p		
C365	1-102-973-11	100 p		
C366	1-102-116-11	680 p		
C367	1-102-116-11	680 p		
C368		---------------		
C369	1-101-006-11	0.047		

Ref. No.	*Part No.*	*Description*		
C370	1-101-004-11	0.01		
C371	1-102-947-11	10 p		
C372	1-121-398-11	10	25 V	elect
C373	1-101-006-11	0.047		
C374	1-102-863-11	82 p		
C375	1-102-679-11	120 p		
C376	1-101-004-11	0.01		
C377	1-101-004-11	0.01		
C378	1-101-004-11	0.01		
C379	1-101-004-11	0.01		
C380	1-101-004-11	0.01		
C381	1-101-006-11	0.047		
C382	1-101-004-11	0.01		
C383	1-121-391-11	1	50 V	elect
C384	1-101-006-11	0.047		
C385	1-121-415-11	100	16 V	elect
C386	1-101-004-11	0.01		
C387		---------------		
C388	1-102-978-11	220 p		
C389	1-102-978-11	220 p		
C390	1-102-961-11	27 p		
C391	1-101-006-11	0.047		
C392	1-121-391-11	1	50 V	elect
C393	1-102-961-11	27 p		
C394	1-102-961-11	27 p		
C395	1-102-961-11	27 p		
C396	1-102-961-11	27 p		
C397	1-102-961-11	27 p		
C398	1-102-961-11	27 p		
C399	1-102-961-11	27 p		
C400	1-102-961-11	27 p		
C401	1-102-961-11	27 p		
C402	1-102-961-11	27 p		
C403	1-102-959-11	22 p		
C404	1-102-959-11	22 p		
C405	1-102-959-11	22 p		
C406	1-101-004-11	0.01		
C407	1-102-963-11	33 p		

Ref. No.	*Part No.*	*Description*		
C408	1-102-963-11	33 p		
C409	1-121-391-11	1	50 V	elect
C410	1-101-006-11	0.047		
C411	1-102-961-11	27 p		
C412	1-102-100-11	0.0022		
C413	1-101-004-11	0.01		
C414	1-101-004-11	0.01		
C501	1-102-947-11	10 p		
C502	1-108-632-31	0.033	100 V	mylar
C503	1-108-632-31	0.033	100 V	mylar
C504	1-121-391-11	1	50 V	elect
C505	1-108-634-31	0.047	100 V	mylar
C506	1-121-395-11	4.7	25 V	elect
C507	1-108-638-31	0.1	100 V	mylar
C508	1-121-405-11	33	50 V	elect
C509	1-106-212-12	0.047	100 V	mylar
C510	1-106-188-12	0.0047	100 V	mylar
C511	1-106-184-12	0.0033	100 V	mylar
C512	1-108-638-31	0.1	100 V	mylar
C513	1-121-246-11	4.7	160 V	elect
C514	1-102-038-11	0.001	500 V	
C515	1-108-634-31	0.047	100 V	mylar
C516	1-121-708-11	10	160 V	elect
C517	1-102-219-11	680 p	1 kV	
C518	1-108-642-31	0.22	100 V	mylar
C519	1-108-549-11	0.68	200 V	mylar
C520	1-121-921-11	10	160 V	elect
C521	1-121-918-11	4.7	100 V	elect
C522	1-123-024-11	33	160 V	elect
C523	1-121-416-11	100	25 V	elect
C524	1-121-396-11	4.7	50 V	elect
C525	1-101-810-11	100 p	500 V	
C526	1-108-634-31	0.047	100 V	mylar
C527	1-121-405-11	33	50 V	elect
C528	1-121-738-11	10	50 V	elect
C529	1-108-626-31	0.01	100 V	mylar
C530	1-108-626-31	0.01	100 V	mylar

Ref. No.	*Part No.*	*Description*		
C531	1-131-158-11	10	16 V	solid aluminum
C532	1-121-479-11	22	16 V	elect
C533	1-127-024-11	2.2	10 V	solid aluminum
C534	1-121-391-11	1	50 V	elect
C535	1-121-917-11	20	100 V	elect
C536	1-101-006-11	0.047		
C537	1-121-409-11	47	16 V	elect
C538	1-121-450-11	2.2	50 V	elect
C539	1-121-450-11	2.2	50 V	elect
C540	1-121-751-11	330	6.3 V	elect
C541	1-102-002-11	680 p	500 V	
C542	1-108-690-31	0.0068	200 V	mylar
C543		--------------		
C544		--------------		
C545	1-102-973-11	100 p		
C546	1-102-973-11	100 p		
C547		--------------		
C548	1-102-153-11	100 p	2 kV	
C549	1-101-810-11	100 p	500 V	
C550	1-102-973-11	100 p		
C551	1-102-074-11	0.001		
C552	1-101-004-11	0.01		
C553		--------------		
C554		--------------		
C555		--------------		
C556	1-102-978-11	220 p		
C557	1-108-632-31	0.033	100 V	mylar
C558	1-121-398-11	10	25 V	elect
C559		--------------		
C570	1-108-680-31	0.001	200 V	mylar
C601	1-108-745-31	0.22	300 V ac	mylar
C602		--------------		
C603	1-102-240-11	0.0047	250 V ac	
C604	1-123-032-11	22	400 V	elect
C605	1-125-084-11	200 + 22	400 V	elect

Ref. No.	*Part No.*	*Description*		
C606	1-105-963-13	0.047	400 V	mylar
C607	1-105-963-13	0.047	400 V	mylar
C608	1-123-024-11	33	160 V	elect
C609	1-106-180-12	0.0022	100 V	mylar
C610	1-121-189-11	1	160 V	elect
C611	1-121-391-11	1	50 V	elect
C612	1-101-810-11	100 p	500 V	
C613	1-105-741-12	0.001	200 V	mylar
C614	1-121-395-11	4.7	25 V	elect
C615	1-106-212-12	0.047	100 V	mylar
C616	1-106-341-12	0.2	100 V	mylar
C617		--------------		
C618	1-102-038-11	0.001	500 V	
C619		--------------		
C620		--------------		
C621	1-129-739-11	0.1	630 V ac	film
C622	1-108-745-11	0.22	300 V ac	mylar
C623		--------------		
C624		--------------		
C625		--------------		
C630	1-102-085-11	0.0047	500 V	
C701	1-119-327-11	0.47	500 V	elect
C702	1-102-050-11	0.01	500 V	
C751	1-102-043-11	1000 p	500 V	feed through
C752	1-121-404-11	33	25 V	elect
C753	1-102-102-11	0.0047		
C754	1-102-102-11	0.0047		
C755	1-102-102-11	0.0047		
C756	1-102-942-11	5 p		
C757	1-102-102-11	0.0047		
C758	1-102-937-11	4 p		
C759	1-102-102-11	0.0047		
C760	1-102-102-11	0.0047		
C761	1-102-102-11	0.0047		
C762		--------------		
C763	1-102-102-11	0.0047		
C801	1-129-885-11	16000 p	1 kV	film
C802	1-129-936-11	7500 p	1.5 kV	film

Ref. No.	*Part No.*	*Description*		
C803		--------------		
C804	1-102-155-11	330 p	2 kV	
C805	1-102-219-11	680 p	1 kV	
C806	1-102-038-11	0.001	500 V	
C807	1-102-820-11	330 p		
C808	1-102-038-11	0.001	500 V	
C809	1-102-038-11	0.001	500 V	
C810	1-102-153-11	100 p	2 kV	
C901	1-105-793-13	0.01	400 V	mylar
VC201	1-141-138-11	1 p ~ 5 p		trimmer
SG701	1-519-063-11	Spark Gap, 1.5 kV		
SG702	1-519-063-11	Spark Gap, 1.5 kV		
SG703	1-519-063-11	Spark Gap, 1.5 kV		
SG704	1-519-063-11	Spark Gap, 1.5 kV		
SG705	1-519-063-11	Spark Gap, 1.5 kV		

RESISTORS

All resistors are in ohms, ± 5 %, 1/4 W and carbon unless otherwise noted. k = 1000, M = 1000 k.

R151	1-244-685-11	3.3 k
R152	1-244-665-11	470
R153	1-244-679-11	1.8 k
R154	1-244-659-11	270
R155	1-244-657-11	220
R156	1-244-679-11	1.8 k
R157	1-244-665-11	470
R158	1-244-661-11	330
R159	1-244-673-11	1 k
R160	1-244-685-11	3.3 k
R161	1-244-709-11	33 k
R162	1-244-709-11	33 k
R163	1-244-713-11	47 k
R164	1-244-705-11	22 k
R165	1-244-725-11	150 k
R166		--------------
R167	1-244-665-11	470
R168	1-244-657-11	220

Ref. No.	*Part No.*	*Description*		
R169	1-244-677-11	1.5 k		
R170	1-244-649-11	100		
R171		---------------		
R172		---------------		
R173		---------------		
R174	1-244-683-11	2.7 k		
R175	1-206-104-11	10 k	1 W	metal oxide
R176	1-244-659-11	270		
R177	1-244-675-11	1.2 k		
R178	1-244-683-11	2.7 k		
R179	1-206-104-11	10 k	1 W	metal oxide
R180	1-244-659-11	270		
R181	1-244-675-11	1.2 k		
R182	1-244-683-11	2.7 k		
R183	1-206-104-11	10 k	1 W	metal oxide
R184	1-244-659-11	270		
R185	1-244-675-11	1.2 k		
R201	1-244-622-11	7.5		
R202	1-244-637-11	33		
R203	1-244-617-11	4.7		
R204	1-244-637-11	33		
R205	1-244-663-11	390		
R206	1-244-675-11	1.2 k		
R207	1-244-665-11	470		
R208	1-244-679-11	1.8 k		
R209	1-244-695-11	8.2 k		
R210	1-244-663-11	390		
R211	1-244-687-11	3.9 k		
R212	1-244-667-11	560		
R213	1-244-687-11	3.9 k		
R214	1-244-679-11	1.8 k		
R215	1-244-689-11	4.7 k		
R216	1-244-667-11	560		
R217	1-242-657-11	220		
R218	1-244-693-11	6.8 k		
R219	1-244-675-11	1.2 k		
R220	1-244-693-11	6.8 k		
R221	1-244-669-11	680		

Ref. No.	*Part No.*	*Descritpion*		
R222	1-244-673-11	1 k		
R223	1-244-699-11	12 k		
R224	1-244-661-11	330		
R225	1-244-669-11	680		
R226	1-244-665-11	470		
R227	1-244-697-11	10 k		
R228	1-244-649-11	100		
R229	1-244-673-11	1 k		
R230	1-244-691-11	5.6 k		
R231	1-244-659-11	270		
R232	1-244-697-11	10 k		
R233	1-244-673-11	1 k		
R234	1-244-657-11	220		
R235	1-244-677-11	1.5 k		
R236	1-244-649-11	100		
R237	1-244-649-11	100		
R238	1-244-721-11	100 k		
R239	1-244-689-11	4.7 k		
R240	1-244-683-11	2.7 k		
R241	1-244-665-11	470		
R242	1-244-707-11	27 k		
R243	1-244-658-11	240		
R244	1-244-662-11	360		
R245	1-244-663-11	390		
R246	1-244-697-11	10 k		
R247	1-244-673-11	1 k		
R248	1-244-683-11	2.7 k		
R249	1-244-705-11	22 k		
R250	1-244-649-11	100		
R251	1-244-649-11	100		
R252	1-244-679-11	1.8 k		
R253	1-244-705-11	22 k		
R254	1-244-684-11	3 k		
R255	1-244-649-11	100		
R256	1-244-697-11	10 k		
R257	1-244-699-11	12 k		
R258	1-244-673-11	1 k		
R259	1-244-689-11	4.7 k		
R260	1-217-025-11	33	3 W	cement coated

Ref. No.	*Part No.*	*Description*
R261	1-217-027-11	47 3 W cement coated
R262		---------------
R263	1-244-857-11	220 ½ W
R264	1-244-859-11	270 ½ W
R265	1-244-685-11	3.3 k
R266	1-244-673-11	1 k
R267	1-244-673-11	1 k
R268	1-244-709-11	33 k
R300	1-244-679-11	1.8 k
R301	1-244-669-11	680
R302	1-244-697-11	10 k
R303	1-244-685-11	3.3 k
R304	1-244-653-11	150
R305	1-244-673-11	1 k
R306	1-244-669-11	680
R307	1-244-681-11	2.2 k
R308	1-244-685-11	3.3 k
R309	1-244-697-11	10 k
R310	1-244-697-11	10 k
R311	1-244-697-11	10 k
R312	1-244-697-11	10 k
R313	1-244-657-11	220
R314	1-244-701-11	15 k
R315	1-244-697-11	10 k
R316	1-244-673-11	1 k
R317	1-244-681-11	2.2 k
R318	1-244-701-11	15 k
R319	1-244-697-11	10 k
R320	1-244-673-11	1 k
R321	1-244-637-11	33
R322	1-244-637-11	33
R323	1-244-697-11	10 k
R324	1-244-661-11	330
R325	1-244-681-11	2.2 k
R326	1-244-665-11	470
R327	1-244-701-11	15 k
R328	1-244-685-11	3.3 k
R329	1-244-653-11	150
R330	1-244-673-11	1 k

Ref. No.	*Part No.*	*Description*
R331	1-244-633-11	22
R332	1-244-661-11	330
R333	1-244-653-11	150
R334	1-244-701-11	15 k
R335	1-244-685-11	3.3 k
R336	1-244-675-11	1.2 k
R337	1-244-637-11	33
R338	1-244-661-11	330
R339	1-244-657-11	220
R340	1-244-709-11	33 k
R341	1-244-681-11	2.2 k
R342	1-244-647-11	82
R343	1-244-709-11	33 k
R344	1-244-733-11	330 k
R345	1-244-693-11	6.8 k
R346	1-244-681-11	2.2 k
R347		---------------
R348	1-244-669-11	680
R349	1-244-701-11	15 k
R350	1-244-717-11	68 k
R351	1-244-697-11	10 k
R352	1-244-685-11	3.3 k
R353	1-244-633-11	22
R354	1-244-713-11	47 k
R355	1-244-673-11	1 k
R356	1-244-705-11	22 k
R357	1-244-673-11	1 k
R358	1-244-673-11	1 k
R359	1-244-697-11	10 k
R360	1-244-697-11	10 k
R361	1-244-663-11	390
R362	1-244-679-11	1.8 k
R363	1-244-679-11	1.8 k
R364	1-244-709-11	33 k
R365	1-244-701-11	15 k
R366	1-244-677-11	1.5 k
R367	1-244-641-11	47
R368	1-244-673-11	1 k
R369	1-244-693-11	6.8 k

Ref. No.	*Part No.*	*Description*
R370	1-244-685-11	3.3 k
R371	1-244-697-11	10 k
R372	1-244-721-11	100 k
R373	1-244-685-11	3.3 k
R374	1-244-717-11	68 k
R375	1-244-653-11	150
R376	1-244-673-11	1 k
R377	1-244-705-11	22 k
R378	1-244-721-11	100 k
R379	1-244-705-11	22 k
R380	1-244-721-11	100 k
R381	1-244-673-11	1 k
R382	1-244-697-11	10 k
R383	1-244-699-11	12 k
R384	1-244-683-11	2.7 k
R385	1-244-653-11	150
R386	1-244-653-11	150
R387	1-244-633-11	22
R388	1-244-661-11	330
R389	1-244-669-11	680
R390	1-244-645-11	68
R391	1-244-693-11	6.8 k
R392	1-244-709-11	33 k
R393	1-244-653-11	150
R394	1-244-665-11	470
R395	1-244-645-11	68
R396	1-244-663-11	390
R397	1-244-663-11	390
R398	1-244-653-11	150
R399	1-244-697-11	10 k
R400	1-244-683-11	2.7 k
R401	1-244-677-11	1.5 k
R402	1-244-681-11	2.2 k
R403	1-244-677-11	1.5 k
R404	1-244-665-11	470
R405	1-244-645-11	68
R406	1-244-673-11	1 k
R407	1-244-673-11	1 k

Ref. No.	*Part No.*	*Description*
R408	1-244-669-11	680
R409	1-244-661-11	330
R410	1-244-675-11	1.2 k
R411	1-244-685-11	3.3 k
R412	1-244-669-11	680
R413	1-244-645-11	68
R414	1-244-673-11	1 k
R415	1-244-673-11	1 k
R416	1-244-641-11	47
R417	1-244-673-11	1 k
R418	1-244-677-11	1.5 k
R419	1-244-693-11	6.8 k
R420	1-244-677-11	1.5 k
R421	1-244-697-11	10 k
R422	1-244-697-11	10 k
R423	1-244-657-11	220
R424	1-244-661-11	330
R425	1-244-681-11	2.2 k
R426	1-244-657-11	220
R427	1-244-679-11	1.8 k
R428	1-244-679-11	1.8 k
R429	1-244-673-11	1 k
R430	1-244-673-11	1 k
R431	1-244-689-11	4.7 k
R432	1-244-689-11	4.7 k
R433	1-244-673-11	1 k
R434	1-244-673-11	1 k
R435	1-244-697-11	10 k
R436	1-244-697-11	10 k
R437	1-244-673-11	1 k
R438	1-244-673-11	1 k
R439	1-244-697-11	10 k
R440	1-244-697-11	10 k
R441	1-244-673-11	1 k
R442	1-244-673-11	1 k
R443	1-244-689-11	4.7 k
R444	1-244-689-11	4.7 k
R445	1-244-661-11	330

Ref. No.	*Part No.*	*Description*		
R455		---------------		
R456		---------------		
R457	1-244-709-11	33 k		
R458	1-244-709-11	33 k		
R459	1-244-681-11	2.2 k		
R460	1-244-681-11	2.2 k		
R461	1-244-693-11	6.8 k		
R462	1-244-693-11	6.8 k		
R463		---------------		
R464		---------------		
R481	1-244-661-11	330		
R482	1-244-657-11	220		
R483	1-244-657-11	220		
R484	1-244-649-11	100		
R485	1-244-665-11	470		
R486	1-244-665-11	470		
R501	1-244-693-11	6.8 k		
R502	1-244-701-11	15 k		
R503	1-244-665-11	470		
R504	1-244-663-11	390		
R505	1-244-660-11	300		
R506	1-244-687-11	3.9 k		
R507	1-244-687-11	3.9 k		
R508	1-206-017-11	1.8 k	2 W	metal oxide
R509	1-244-697-11	10 k		
R510	1-244-703-11	18 k		
R511	1-244-667-11	560		
R512	1-244-671-11	820		
R513	1-244-693-11	6.8 k		
R514	1-244-685-11	3.3 k		
R515	1-244-669-11	680		
R516	1-244-649-11	100		
R517	1-244-696-11	9.1 k		
R518	1-244-669-11	680		
R519	1-211-451-11	1 k	⅛ W	
R520	1-244-675-11	1.2 k		

Ref. No.	*Part No.*	*Description*		
R521		---------------		
R522		---------------		
R523	1-202-605-11	22 k	½ W	composition
R524	1-207-903-11	10	0.25 A	fuse
R525		---------------		
R526	1-244-683-11	2.7 k		
R527	1-206-111-11	39 k	1 W	metal oxide
R528	1-244-681-11	2.2 k		
R529	1-211-490-11	4.7		
R530	1-207-982-11	2.7	0.65 A	fuse
R531	1-244-893-11	6.8 k	½ W	
R532	1-244-715-11	56 k		
R533	1-244-691-11	5.6 k		
R534	1-244-679-11	1.8 k		
R535	1-244-679-11	1.8 k		
R536	1-244-705-11	22 k		
R537	1-244-705-11	22 k		
R538	1-244-699-11	12 k		
R539	1-244-703-11	18 k		
R540	1-244-691-11	5.6 k		
R541	1-244-637-11	33		
R542	1-244-689-11	4.7 k		
R543	1-244-625-11	10		
R544	1-244-679-11	1.8 k		
R545	1-244-713-11	47 k		
R546	1-244-673-11	1 k		
R547	1-244-715-11	56 k		
R548	1-244-691-11	5.6 k		
R549	1-207-471-11	4.7	½ W	wirewound
R550	1-244-633-11	22		
R551	1-244-689-11	4.7 k		
R552	1-206-110-11	33 k	1 W	metal oxide
R553	1-244-691-11	5.6 k		
R554	1-244-901-11	15 k	½ W	
R555	1-244-687-11	3.9 k		

Ref. No.	*Part No.*	*Description*		
R556	1-244-729-11	220 k		
R557	1-244-717-11	68 k		
R558	1-244-829-11	15	½ W	
R559	1-244-675-11	1.2 k		
R560	1-244-671-11	820		
R561	1-244-873-11	1 k	½ W	
R562		---------------		
R563	1-244-897-11	10 k	½ W	
R564	1-244-901-11	15 k	½ W	
R565	1-244-899-11	12 k	½ W	
R566	1-211-932-11	27	⅛ W	
R567	1-244-705-11	22 k		
R568	1-244-681-11	2.2 k		
R569	1-244-697-11	10 k		
R570	1-244-709-11	33 k		
R571	1-244-671-11	820		
R572	1-244-667-11	560		
R573	1-206-080-11	82	1 W	metal oxide
R574	1-206-688-11	10 k	2 W	metal oxide
R601	1-244-885-11	3.3 k	½ W	
R602	1-244-691-11	5.6 k		
R603	1-244-873-11	1 k	½ W	
R604	1-244-873-11	1 k	½ W	
R605	1-207-657-11	10	3 W	wirewound
R606	1-207-657-11	10	3 W	wirewound
R607	1-206-823-11	33 k	5 W	metal oxide
R608	1-206-640-11	100	2 W	metal oxide
R609	1-211-931-11	68	⅛ W	
R610	1-244-714-11	51 k		
R611	1-244-669-11	680		
R612	1-244-685-11	3.3 k		
R613	1-244-901-11	15 k	½ W	
R614	1-244-689-11	4.7 k		
R615	1-244-689-11	4.7 k		
R616	1-244-693-11	6.8 k		
R617	1-244-681-11	2.2 k		
R618	1-206-737-11	3.3 k	3 W	metal oxide
R619	1-206-697-11	18 k	2 W	metal oxide
R620	1-206-697-11	18 k	2 W	metal oxide

Ref. No.	*Part No.*	*Description*		
R621	1-244-881-11	2.2 k	½ W	
R622	1-244-880-11	2 k	½ W	
R623	1-244-669-11	680		
R624	1-207-657-11	10	3 W	wirewound
R625	1-244-699-11	12 k		
R626	1-244-891-11	5.6 k	½ W	
R627	1-244-661-11	330		
R628	1-207-942-11	39	7 W	wirewound
R701	1-202-581-11	2.2 k	½ W	composition
R702	1-202-581-11	2.2 k	½ W	composition
R703	1-202-629-11	220 k	½ W	composition
R704	1-202-621-11	100 k	½ W	composition
R705	1-202-635-11	390 k	½ W	composition
R706	1-202-581-11	2.2 k	½ W	composition
R707	1-202-603-11	18 k	½ W	composition
R708	1-202-637-11	470 k	½ W	composition
R751	1-244-679-11	1.8 k		
R752	1-244-696-11	9.1 k		
R753	1-244-667-11	560		
R754	1-244-661-11	330		
R755	1-244-685-11	3.3 k		
R756	1-244-685-11	3.3 k		
R757	1-244-697-11	10 k		
R758	1-244-679-11	1.8 k		
R759	1-244-635-11	27		
R760	1-244-667-11	560		
R761	1-244-685-11	3.3 k		
R762	1-244-649-11	100		
R763	1-244-653-11	150		
R801	1-244-895-11	8.2 k	½ W	
R802	1-206-915-21	19 M + 31.7 M, high voltage		
※R803	1-206-918-11	2.7	3 W	metal oxide
	1-206-921-11	4.7	3 W	metal oxide
	1-206-922-11	5.6	3 W	metal oxide
※R804	1-206-925-11	10	3 W	metal oxide
	1-206-927-11	15	3 W	metal oxide
	1-206-928-11	18	3 W	metal oxide
	1-206-929-11	22	3 W	metal oxide

※ to be selected.

Ref. No.	*Part No.*	*Description*
R805	1-202-597-11	10 k ½ W composition
R806	1-217-007-11	1 3 W cement coated
R901	1-205-483-11	10 10 W cement coated
R902	1-244-661-11	330
R903	1-244-643-11	56 (KV-1330UB only)
R904	1-244-651-11	120
VR151	1-222-515-00	330-B, adjustable; B. DRIVE
VR152	1-222-344-00	5 k-B, adjustable; B. BKG
VR153	1-222-515-00	330-B, adjustable; G. DRIVE
VR154	1-222-344-00	5 k-B, adjustable; G. BKG
VR155	1-222-515-00	330-B, adjustable; R. DRIVE
VR156	1-222-344-00	5 k-B, adjustable; R. BKG
VR201	1-222-516-00	470-B, adjustable; U.TU AGC
VR202	1-222-516-00	470-B, adjustable; SND TRAP ADJ
VR203	1-222-517-00	1 k-B, adjustable; DET OUT ADJ
VR204	1-222-518-00	4.7 k-B, adjustable; U. RF AGC
VR301	1-222-784-00	3.3 k-B, adjustable; DMP ADJ
VR302	1-222-518-00	4.7 k-B, adjustable; IDP ADJ
VR303	1-222-517-00	1 k-B, adjustable; ACC
VR304	1-222-515-00	330-B, adjustable; SMB ADJ
VR305	1-222-515-00	330-B, adjustable; VSB ADJ
VR501	1-222-725-00	20 k-B, adjustable; H. FREQ
VR502	1-223-017-00	50-B, adjustable; TILT
VR503	1-223-017-00	50-B, adjustable; H. CENT
VR504	1-222-725-00	20 k-B, adjustable; PIN ADJ
VR505	1-222-344-00	5 k-B, adjustable; H. SIZE
VR506	1-222-512-00	10 k-B, adjustable; V. SIZE
VR507	1-222-512-00	10 k-B, adjustable; V. LIN
VR508	1-222-784-00	3.3 k-B, adjustable; V. BIAS
VR601	1-221-699-00	500-B, adjustable; 110 V ADJ
VR701	1-222-809-00	500 k-B, adjustable; SCRN
VR801	1-222-509-00	500 k-B, adjustable; H. STAT
VR901	1-222-383-00	1 k-B, variable; PICTURE
VR902	1-222-388-00	20 k-B, variable; VER

Ref. No.	*Part No.*	*Description*
VR903	1-222-624-00	50 k-D, variable; PULL ON/VOL
S901		
VR904	1-222-388-00	20 k-B, variable; BRT
VR905	1-224-392-00	500-B, variable; HUE
VR906	1-222-386-00	500-B, variable; COLOUR
	MISCELLANEOUS	
	X-4302-401-0	Permalloy Ass'y
CN101	1-508-457-00	Aerial Connector
F601	1-532-203-00	Fuse, 2 AT
F602	1-532-078-00	Fuse, 1 AT
J901	1-507-169-13	Jack, earpiece (KV-1330UB only)
J902		
NE901	1-519-060-00	Neon Lamp, 110 V dc (UHF)
S902	1-515-119-00	Circuit Breaker, 1.25 A
S903	1-516-002-00	Switch, pushbutton; AFT (KV-1310UB only)
	1-514-892-00	Switch, rotary; AFT (KV-1330UB only)
SP	1-502-299-00	Speaker, 8 ohms; 8 x 12 cm (KV-1310UB only)
	1-502-309-00	Speaker, 8 ohms; 8 x 16 cm (KV-1330UB only)
X301	1-527-183-00	Crystal, 4.43 MHz
	1-452-014-00	Magnet, disk; 15 mm dia
	1-452-032-00	Magnet, disk; 10 mm dia
	1-452-038-00	Magnet, vertical convergence
	1-452-058-00	Magnet, horizontal convergence
	1-506-187-71	Coaxial Cable with Plug
	1-507-901-12	Nut, jack (KV-1330UB only)
	1-526-086-00	Socket, picture tube
	1-526-130-61	Cap, anode
	1-526-131-52	Cap, convergence
	1-534-777-00	Mains Cable
	1-536-270-00	Lug, terminal; 1L3L1
	1-536-367-13	Terminal Board Ass'y, aerial
	1-536-386-00	Lug, terminal; 1L1
	1-536-391-00	Lug, terminal; 3L2 (KV-1330UB only)
	8-735-301-05	Picture Tube, 330AB22

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